# AGENDA REPORT

SAN CLEMENTE CITY COUNCIL MEETING
Meeting Date: August 20, 2019

Agenda Item 6Q

*Approvals:*
City Manager
Dept. Head DR
Attorney SS
Finance

***Department:*** Utilities
***Prepared By:*** David Rebensdorf, Utilities Director DR

***Subject:*** ***APPROVAL OF A CONTRACT FOR SUPPLY AND DELIVERY OF POLYMER – SOUTH ORANGE COUNTY WASTEWATER AUTHORITY (SOCWA) AND POLYDYNE, INC.***

***Fiscal Impact:*** Yes. There is adequate funding for this Contract within the Sewer Operating Fund Budget, Account Number 054-472-42150 for Fiscal Year 2020. Additional funding for the two-year Contract and any contract extensions will be proposed as part of the City's annual budget for future fiscal years.

***Summary:*** Staff recommends City Council authorize the City Manager to sign a regional Contract through SOCWA with Polydyne, Inc. for supply and delivery of Polymer products to the City's Water Reclamation Plant.

***Background:*** The City's Water Reclamation Plant uses liquid Polyelectrolyte Chemical Flocculent (Polymer), which is a chemical necessary for separating water from solids during the wastewater treatment process. SOCWA member agencies have a long history of partnering to purchase bulk chemical supplies to reduce costs and the City of San Clemente currently participates in various contracts through SOCWA for Water Reclamation Plant chemicals.

SOCWA's chemical contract with Polydyne for supply of Polymer recently expired and SOCWA conducted a Request for Proposal (RFP) process with two proposals received. Polydyne, Inc. was the preferred vendor resulting from the RFP process and SOCWA will enter into an initial two-year contract with fixed pricing, with three optional annual extensions which will be negotiated at the expiration of each term. A new request for proposal will be released if negotiations are not successful.

***Recommended Action:*** STAFF RECOMMENDS THAT the City Council:

1. Approve, and authorize the City Manager to execute, Contract _____, a joint Contract through South Orange County Wastewater Authority and Polydyne, Inc. providing for supply and delivery of Polymer; and

2. Authorize the City Manager to approve up to three, one year extensions to the Contract if SOCWA and the City make a determination to extend the Contract after the initial two-year period.

***Attachments:*** 1. SOCWA Agenda Item dated May 16, 2019 – Contract Award to Polydyne, Inc. for Polymer.

2. Agreement For Goods/Technical Services Between South Orange County Wastewater Authority and Other Member Agencies and Polydyne, Inc. for Supply of Polymer.

***Notification:*** None.

**Attachment 1**

# Agenda Item

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|---|
| **Budgeted:** Yes |
| **Budget amount:** $658,000 |
| **Line Item:** PC2, 15 &17 Lines 5007 |
| **Legal Counsel Review:** No |
| **Meeting Date:** May 16, 2019 |

**TO:** Project Committee No. 2

**FROM:** Betty Burnett, General Manager

**STAFF CONTACT:** Jim Burror, Director of Operations

**SUBJECT:** Contract Award to Polydyne, Inc. for Polymer [PC2]

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**Summary**

The Polymer chemical contract with Polydyne, Inc. is expiring. This chemical is necessary for separating water from solids during solids processing in the wastewater treatment process. SOCWA staff has solicited a replacement vendor through a Request for Proposal (RFP) process.

The RFP process has concluded, and the Board is being requested to approve a 2-year contract with Polydyne, Inc. for Polymer, with up to three (3) annual renewals.


**Discussion/Analysis**

SOCWA initiated a Request for Proposals to solicit new potential vendors to provide Polymer for SOCWA and its Member Agencies.

Request for Proposals

The following is the schedule for the solicitation of a new Polymer contract:

| Date | Task/Work Item |
|---|---|
| 9-Jan-19 | RFP Released |
| 5-Feb-19 | Pre-proposal Meeting |
| 4-Mar-19 | Received Proposals |
| 3/5/19 -3/7/19 | Review Initial Proposals |
| 3/8/19 -4/9/19 | Review Product Claims and Testing |
| 16-Apr-19 | Interview / Last Best Final Offer Meeting |
| 9-May-19 | Board Meeting to approve the Contract |
| 1-Jun-19 | Anticipated contract start date |

RFP Process Results and Outcomes

The RFP process involved contacting the known vendors in the area responding to recent requests for Polymer proposals in Southern California. Each company was contacted to determine the appropriate staff person to receive notification of the upcoming RFP. SOCWA staff also used PlanetBids to distribute the RFP to all potential vendors that provide polymer. Nine

potential vendors downloaded the RFP. At the close of the proposal period, two (2) proposals were received.

*Non-Compliant Proposals (Phase 1) Review Results*

None of the proposals were determined to be non-compliant.

*Initial Proposal (Phase 2) Review Results*

The proposals were rated with a maximum score of 50.

Polydyne Inc. = 50
Solenis = 29

**Initial Price Submittal**

| Product | Package | Polydyne ($/lbs) | Solenis ($/lbs) |
|---|---|---|---|
| Centrifuge Polymer | Bulk (>40,000 lbs.) | $1.18 | $1.52 to $1.58 |
| Centrifuge Polymer | Bulk (<40,000 lbs.) | $1.32 | $1.62 to $1.68 |
| DAFT Polymer | Tote (2,300 lbs.) or 450 lb Drum | $1.24 | $1.62 to $1.68 |
| DAFT Polymer | Full Bulk (>30,000 lb) | $0.140 | $1.61 to $1.68 |
| DAFT Polymer | Full Bulk (<30,000 lb) | $0.23 | $1.61 to $1.68 |
| DAFT Polymer | 450 lb. drum | $0.60 | $1.61 to $1.68 |

The primary difference between the proposals was that Solenis had higher pricing than Polydyne, Inc.

*Testing and Optimizing (Phases 3 thru 8)*

Polydyne Inc. was initially selected to be further evaluated based on the initial evaluation. Because SOCWA was already using the proposed products onsite, from the past contract, staff contacted Polydyne Inc. to review SOCWA's systems including a new dosing system to be permanently installed at the JBL Plant in Dana Point. SOCWA staff wanted to understand what impacts this system would have on their proposed pricing and chemical efficiency.

Testing showed improved chemical usage efficiency with the new system.

*Best and Final Offers (Phase 3) Process and Review Results*

The preferred vendor, Polydyne Inc., was informed that the team wanted to meet and review their proposal to better understand their cost proposal. After the interview, Polydyne Inc. was informed that they had an opportunity to resubmit a Best and Final Offer (BAFO) package for consideration by SOCWA. Polydyne Inc. submitted an updated proposal. Polydyne Inc. is lowering the two-line items as shown in table below. Polydyne Inc. also submitted an alternative contract proposal for a five-year fixed contract.

Staff recommends the first option for two (2) years fixed with three (3) optional renewals.

*Post RFP Process Public Comments*

No protests were received.

*Contracts Fees Comparison*

The offered prices for Polymer are as follows:

| Product | Package | Delivered Price (per lb) | Increase |
|---|---|---|---|
| S-469, C-4450, C6260, WE-952 WE-1476 WE1695 | Bulk (>40,000 lbs.) | $1.15 | 13% |
| S-469, C-4450, C6260, WE-952 WE-1476 WE1695 | Bulk (<40,000 lbs.) | $1.32 | 1% |
| S-469, C-4450, C6260, WE-952 WE-1476 WE1695 | Tote (2,300 lbs.) or 450 lb Drum | $1.24 | 17% |
| LA-2911 | Full Bulk (>30,000 lb) | $0.126 | 26% |
| LA-2911 | Full Bulk (<30,000 lb) | $0.23 | 77% |
| C-2005 | 450 lb. drum | $0.60 | 100% |

There is a substantial increase in the costs per pound of Polymer. This type of increase was also noted in recent contract awards around Southern California. The drivers for the higher costs are:

- Economic tariffs
- Increased energy costs
- Increased raw material costs

This new pricing will be fixed for the 2-year term of the contract. The remaining three (3) optional annual extensions will be negotiated at the expiration of each term, or a new RFP will be released if negotiations are not successful.

**Prior Related Project Committee or Board Action(s)**

None

**Fiscal Impact**

The impact to Project Committee No. 2, 15 and 17 will be about 20% of the budgeted value or about $120,000 per year.

**Recommendation**

Staff recommends to the Project Committee No. 2 Board the award of contract to Polydyne, Inc. for Polymer, at the rates shown above for a 2-year term plus applicable fees and taxes, with up to three (3) annual renewals.

# Attachment 2

**AGREEMENT FOR GOODS/TECHNICAL SERVICES**
**BETWEEN**
**SOUTH ORANGE COUNTY WASTEWATER AUTHORITY**
**AND OTHER MEMBER AGENCIES AND POLYDYNE, INC.**
**FOR SUPPLY OF POLYMER**

THIS AGREEMENT (the "Agreement") is dated as of June 1, 2019 ("Effective Date") by and between South Orange County Wastewater Authority ("SOCWA"), Santa Margarita Water District ("SMWD"), Moulton Niguel Water District ("MNWD"), City of San Clemente ("CSC") and Trabuco Canyon Water District ("TCWD"), referred to individually as "SOCWA Entity" and collectively as "SOCWA Entities", and Polydyne, Inc., hereinafter referred to as the "CONTRACTOR", for the provision of goods and/or technical services to SOCWA Entities by CONTRACTOR. SOCWA Entities and CONTRACTOR may be referred to in this Agreement individually as "party" and collectively as "parties."

## SECTION I
## TERM OF CONTRACT

### Section 1.1 Term

This Agreement will begin as of the Effective Date stated above, and will continue in effect for two (2) years ("Term") or until terminated as provided under Section VII. This Agreement may be extended for three (3), one (1) year renewals if mutually agreed by the parties. If the option to extend is exercised, the parties will set forth any mutually agreeable changes to compensation and/or the scope of work in a written amendment to this Agreement.

## SECTION II
## SCOPE OF WORK

### Section 2.1 Specific Services

CONTRACTOR shall furnish the goods and/or services which are described in the Request for Proposal described in **Exhibit A** hereto, which is incorporated by reference (the "Scope of Work"). CONTRACTOR will perform the Scope of Work under this Agreement in good faith, in a competent and professional manner, and in the best interests of SOCWA Entities. CONTRACTOR will determine the method, details and means of performing the Scope of Work.

### Section 2.2 Time for Completion

CONTRACTOR shall not begin the services described in the Scope of Work until receipt of SOCWA Entities' written direction to proceed. Upon receipt of such notice, CONTRACTOR shall immediately commence the work described in **Exhibit A**.

Time is of the essence in this Agreement. CONTRACTOR agrees to coordinate the work to ensure its timely completion and shall promptly notify SOCWA Entities of any anticipated delays or causes or casualties which may affect the work schedule.

## SECTION III
## COMPENSATION

### Section 3.1 Fee Schedule

In consideration for all work performed under this Agreement, SOCWA Entities agree to compensate CONTRACTOR according to the following schedule:

| Product | Package | Delivered Price (per lb) |
|---|---|---|
| Centrifuge Polymer | Bulk (>40,000 lbs.) | $1.18 |
| Centrifuge Polymer | Bulk (<40,000 lbs.) | $1.32 |
| DAFT Polymer | Tote (2,300 lbs.) or 450 lb Drum | $1.24 |
| DAFT Polymer | Full Bulk (>30,000 lb) | $0.14 |
| DAFT Polymer | Full Bulk (<30,000 lb) | $0.23 |
| DAFT Polymer | 450 lb. drum | $0.60 |

The rates of compensation set forth herein shall be inclusive of all product, freight, shipping, delivery and other costs of performing the Scope of Work, but excluding sales taxes, which will be paid by SOCWA Entities.

**Section 3.2 Payment**

**3.2.1** CONTRACTOR shall submit invoices to each of the SOCWA Entities once per month by the 15th of each month for the prior month's services to that SOCWA Entity; invoices shall not be combined. Such invoices shall specify: the type and amount of goods/services furnished during the designated time period multiplied by the applicable fee rate set forth above; the total applicable sales tax; and the date(s) and location of delivery. Invoices shall be sent to the SOCWA Entity at the location identified herein for the receipt of notices.

**3.2.2** Each SOCWA Entity shall make payment to CONTRACTOR within forty-five (45) days of receipt of an approved invoice. Each SOCWA Entity shall be responsible for payment only for those goods/services provided to that SOCWA Entity's facility and not for goods/services provided to any other SOCWA Entity's facility.

**3.2.3** Acceptance and payment by SOCWA Entities for goods/services furnished hereunder, will not in any way relieve the CONTRACTOR of its responsibility to perform the Scope of Work in strict compliance with this Agreement and relevant laws and regulations. Neither SOCWA Entities' acceptance of, nor payment for any services will be construed to operate as a waiver of any rights SOCWA Entities have under this Agreement or any cause of action or claim arising from this Agreement.

## SECTION IV
## OBLIGATIONS OF CONTRACTOR

**Section 4.1 Tools, Materials, Equipment**

CONTRACTOR will supply all tools, materials, and equipment required to perform the Scope of Work under this Agreement. CONTRACTOR shall ensure that any such tools, materials, and equipment brought onto the SOCWA Entities' property or facilities are clean, well maintained and in good condition. Except as necessary and in emergencies, CONTRACTOR shall not undertake any repairs or maintenance of its tools, materials or equipment on SOCWA Entities' property or facilities.

**Section 4.2 Permits, Licenses and Certifications**

CONTRACTOR shall secure and maintain in good standing any and all permits, licenses and certifications required to perform the Scope of Work.

**Section 4.3 Contractor's Qualifications**

CONTRACTOR represents that its employee(s) has the qualifications and skills necessary to perform the services under this Agreement in a competent, professional manner, without the advice or direction of SOCWA Entities. This means CONTRACTOR is able to fulfill the requirements of this Agreement. Failure to perform all the services required under this Agreement constitutes a material breach of the Agreement. CONTRACTOR has complete and sole discretion for the manner in which the work under this Agreement will be performed. Acceptance by SOCWA Entities of reports, and incidental professional work or materials furnished hereunder, shall not in any way relieve CONTRACTOR of responsibility for the technical adequacy of its work.

**Section 4.4 Subcontracting**

CONTRACTOR will be solely responsible for its subcontractors and for making sure work performed by subcontractors conforms with this Agreement. No subcontractor shall be considered a beneficiary to this Agreement.

**Section 4.5 Employer Obligations**

CONTRACTOR shall be solely responsible for paying all federal and state employment and income taxes for its employees, for carrying workers' compensation insurance and for otherwise complying with all other employment law requirements with respect to CONTRACTOR and its employee(s).

**Section 4.6 Safety**

CONTRACTOR shall be solely and completely responsible for the safety of all CONTRACTOR employees, including employees of any subcontractors, during performance of the Scope of Work. CONTRACTOR shall ensure that such employees have adequate training on relevant safety matters and that they are issued any and all necessary personal protective equipment. CONTRACTOR shall fully comply with all laws, rules, regulations and ordinances relating to safety of the public and workers, whether federal, state or local and shall comply with any of SOCWA Entities policies concerning safety that are provided to CONTRACTOR.

**Section 4.7 Compliance with Laws/Rules**

In performing the Scope of Work specified in this Agreement, CONTRACTOR agrees to comply with all laws, rules, regulations and ordinances, whether federal, state or local, and any and all SOCWA Entity policies, procedures, departmental rules and other directives applicable to the goods and/or services to be furnished and provided by SOCWA Entities to CONTRACTOR. Any changes to SOCWA Entity policies and procedures that relate to CONTRACTOR will be provided to CONTRACTOR in writing. CONTRACTOR agrees to review such policies, procedures, rules and directives the contents of which CONTRACTOR will be deemed to have knowledge.

**Section 4.8 Clean-Up and Remediation**

CONTRACTOR shall be responsible for cleaning-up and removing any and all trash, grease, oil and debris that CONTRACTOR generates as a result of performing the Scope of Work. CONTRACTOR shall be responsible for the cleaning and remediation of any spills or discharge at SOCWA Entities' facilities resulting from CONTRACTOR's performance of the Scope of Work. CONTRACTOR shall restore SOCWA Entities' facilities to their pre-existing condition except as expressly allowed by the Scope of Work.

**Section 4.9 Assignment to Awarding Body**

In entering into this Agreement to supply goods, services or material CONTRACTOR offers and agrees to assign to SOCWA Entities all rights, titles and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 [commencing with section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or material pursuant to this Agreement. This assignment shall be made and become effective at the time SOCWA Entities tender final payment to CONTRACTOR, without further acknowledgement by the parties.

## SECTION V
## INSURANCE

**Section 5.1 General Liability**

CONTRACTOR and each of its subcontractors shall maintain throughout the term of this Agreement a general liability policy of insurance, including coverage for products and completed operations, bodily injury and/or death, personal and advertising injury, and property damage claims which may arise from or in connection with the performance of the work under this Agreement by CONTRACTOR and its subcontractors, and each of their agents, representatives, or employees. General Liability insurance shall be comprehensive in form and shall be on a "per occurrence" basis in a minimum amount of Three Million Dollars ($3,000,000) per occurrence. Such coverage shall be written on Insurance Services Office ("ISO") Form CG 00 01, or equivalent.

**Section 5.2 Automobile Liability**

CONTRACTOR and each of its subcontractors shall maintain throughout the term of this Agreement an automobile liability policy of insurance to cover claims, injury, death, loss or damage, accidents from the use or operation of any automobiles, trucks and/or other mobile or stationary equipment, whether owned, non-owned or hire. Auto coverage shall be issued with a limit no less than One Million Dollars ($1,000,000) per accident for bodily injury and property damage.

**Section 5.3 Worker's Compensation**

CONTRACTOR and each of its subcontractors shall maintain throughout the term of this Agreement workers' compensation insurance with limits no less than the statutory limits.

**Section 5.4 Pollution Liability**

CONTRACTOR and each of its subcontractors shall maintain throughout the term of this Agreement a Pollution Liability policy of insurance as applicable to the work being performed, with a limit no less than $2,000,000 per claim or occurrence and $2,000,000 aggregate per policy period of one year. If coverage is provided on a claims-made form, the following must also be provided:

**5.4.1** The retroactive date must be shown, and must be before the date of the Agreement or the beginning of contract work.

**5.4.2** Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract of work.

**5.4.3** If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective date, CONTRACTOR must purchase an extended period coverage for a minimum of five (5) years after completion of contract work.

**5.4.4** 4. A copy of the claims reporting requirements must be submitted to SOCWA Entities.

**Section 5.5 Required Provisions**

**5.5.1** All policies of insurance required under this Section shall be from insurance providers who are either admitted or licensed to do business in California, or are Surplus Lines Carriers authorized to do business in California, and who have an A.M. Best Company rating of no less than A- and a financial size category of at least Class VII, unless otherwise acceptable to SOCWA Entities.

**5.5.2** All such policies shall include a provision and/or executed endorsement providing that coverage shall not be cancelled or materially altered except with thirty (30) days' written notice to SOCWA Entities, send by certified mail, return receipt requested, or reasonable equivalent.

**5.5.3** Under the General Liability, Automobile and Pollution Liability policies required pursuant to this Agreement, each SOCWA Entity, and each of their directors, officers, employees and representatives (the "Additional Insureds") shall be named as additional insureds under each such policy and an additional insured endorsement at least as broad as ISO Form CG 20 10 11 85 or both CG 20 10 and CG 20 37, if later revisions are used, shall be provided to SOCWA.

**5.5.4** The Automobile Liability policy shall be endorsed to include Transportation Pollution Liability insurance, covering materials to be transported by CONTRACTOR pursuant to the Agreement. This coverage may also be provided on the Contractors Pollution Liability policy.

**5.5.5** CONTRACTOR shall provide duly-authorized and, as applicable, executed original certificates and endorsements for all insurance required pursuant to this Agreement on forms approved by SOCWA Entities in conformity with all requirements of this Agreement prior to commencement of any work hereunder. If any of the required coverages expire during the term of this Agreement, CONTRACTOR shall deliver renewal certificates to SOCWA Entities at least ten (10) days prior to the expiration date.

**5.5.6** For any claims related to this Agreement, CONTRACTOR's insurance coverage shall be primary insurance as respects the Additional Insureds. Any insurance or self-insurance maintained by the Additional Insureds shall be excess of the CONTRACTOR's (and its subcontractor's) insurance, and shall not contribute to such insurance.

**Section 5.6 Deductibles**

Any deductibles or self-insured retentions must be declared in writing and approved by SOCWA Entities. At the option of any SOCWA Entity, either: the insurance provider(s) shall reduce or eliminate such deductibles or self-insured retentions as respects the SOCWA Entity, and each of their directors, officers, employees, and representatives; or the CONTRACTOR shall provide a financial guarantee satisfactory to the SOCWA Entity guaranteeing payment of losses and related investigations, claim administration and defense expenses.

**Section 5.7 Waiver of Subrogation**

CONTRACTOR hereby agrees to waive rights of subrogation against SOCWA Entities and the Additional Insureds which any of CONTRACTOR's insurers may acquire from CONTRACTOR by virtue of the payment of any loss. CONTRACTOR agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation.

## SECTION VI
## INDEMNITY

**Section 6.1 Contractor's Duty to Indemnify and Defend**

To the maximum extent permitted by law, CONTRACTOR shall indemnify, defend, and hold harmless each SOCWA Entity and each of their directors, officers, employees, representatives or agents (collectively "SOCWA Indemnitees") from and against any and all losses, liabilities, claims, suits, actions, damages, costs and expenses (including attorney fees and costs to defend) and causes of action of every nature, including personal injury, bodily injury, loss of life, or damage to property, any violation of federal, state, or municipal law or ordinance resulting in penalties or fines, and environmental investigations, monitoring, containment, abatement, removal, repair, cleanup, restoration or remedial work (hereinafter, "Claims") that SOCWA Indemnitees may incur that arise out of, pertain to or relate to the negligence, recklessness, or willful misconduct of CONTRACTOR, including CONTRACTOR's officers, officials, directors, employees, subcontractors, agents, representatives, volunteers, successors, assigns or anyone for whom CONTRACTOR is legally responsible. CONTRACTOR's indemnification, hold harmless and defense obligation shall apply regardless of any negligence of SOCWA Indemnitees.

**6.1.1** CONTRACTOR shall cooperate with and do whatever is necessary to protect SOCWA Indemnitees from any such Claims.

**6.1.2** CONTRACTOR shall defend SOCWA Indemnitees, at CONTRACTOR's own cost, expense and risk, from any and all such aforesaid Claims or other proceedings of any kind that may be brought or instituted against SOCWA Indemnitees. CONTRACTOR and SOCWA Indemnitees shall be jointly represented by legal counsel, unless there is a conflict of interest, and CONTRACTOR shall pay SOCWA Indemnitees' reasonable attorneys' fees and costs as they are incurred. SOCWA Indemnitees shall be consulted regarding and shall approve the selection of legal counsel. Should separate legal counsel be necessary for SOCWA Indemnitees, as determined by SOCWA Indemnitees, CONTRACTOR shall pay for the reasonable attorneys' fees and costs including expert witness fees, as such fees and costs are incurred and within thirty (30) days of receipt of an invoice, for SOCWA Indemnitees' legal counsel in addition to CONTRACTOR's own legal fees and costs. In all circumstances, SOCWA Indemnitees reserve the right to retain their own attorneys. CONTRACTOR shall not agree without SOCWA Indemnitees' prior written consent to any settlement on SOCWA Indemnitees' behalf.

**6.1.3** If CONTRACTOR is obligated to defend SOCWA Indemnitees pursuant to this Section, and fails to do so after reasonable notice from SOCWA Indemnitees, SOCWA Indemnitees may defend themselves and/or settle such Claims, and CONTRACTOR shall pay to SOCWA Indemnitees any and all liabilities incurred in relationship with SOCWA Indemnitees' defense and/or settlement of such Claims.

**6.1.4** CONTRACTOR's indemnification, hold harmless and defense obligation shall not be limited in any way by any limitation on the amount or type of damages,

compensation or benefits payable by or for CONTRACTOR, subcontractor, supplier or other person under workers' compensation acts, disability acts or other employee acts or the insurance required by this Agreement. CONTRACTOR's indemnification, hold harmless and defense obligation shall not be restricted to insurance proceeds, if any, received by CONTRACTOR or Indemnified Parties. Provision of insurance coverage as required by this Agreement shall not affect CONTRACTOR's indemnity obligations.

**Section 6.2 SOCWA Entities' Duty to Indemnify**

Each and every SOCWA Entity (as listed above) shall indemnify and hold harmless each and every other SOCWA Entity and each of their directors, officers, employees, representatives or agents (collectively "SOCWA Indemnitees"), from and against any and all losses, liabilities, claims, suits, actions, damages, costs and expenses and causes of action of every nature, including personal injury, bodily injury, loss of life, or damage to property, any violation of federal, state, or municipal law or ordinance resulting in penalties or fines, and environmental investigations, monitoring, containment, abatement, removal, repair, cleanup, restoration or remedial work (hereinafter, "Claims") that SOCWA Indemnitees may incur that arise out of, pertain to or relate to the negligence, recklessness, or willful misconduct of the SOCWA Entity from which indemnity is sought.

A SOCWA Entity's duty to indemnify under this Section shall be effective only as to those Claims arising from that SOCWA Entity's own negligence, recklessness, or willful misconduct and is owed only to the SOCWA Entity or Entities with Claims arising therefrom. SOCWA Entities shall not be jointly and severally liable for Claims under this Agreement.

**Section 6.3 Survival**

CONTRACTOR acknowledges and agrees to the provisions of this Section and that they are a material element of consideration. CONTRACTOR's obligations pursuant to this Section shall survive the expiration or termination of this Agreement and/or the performance or completion of any or all services and work provided under this Agreement.

## SECTION VII
## TERMINATION

**Section 7.1 Termination by SOCWA Entities**

Each and every SOCWA Entity may individually terminate this Agreement as a result of CONTRACTOR's breach of any term or condition herein as respects such SOCWA Entity, by providing written notice to CONTRACTOR. The notice shall provide CONTRACTOR with at least ten (10) calendar days to cure the deficiency. If within ten (10) calendar days CONTRACTOR fails to cure the deficiency to the satisfaction of the terminating SOCWA Entity or Entities, the Agreement will terminate immediately or upon such other date as may be specified in the notice; although the Agreement will remain in effect between CONTRACTOR and any SOCWA Entity that was not a party to the notice of termination. CONTRACTOR shall cease to perform the Scope of Work for those SOCWA Entities providing notice upon the effective date of termination and shall not be entitled to payment for any fees or costs incurred after the effective date of termination unless otherwise agreed by the parties.

**Section 7.2 Termination by Contractor**

CONTRACTOR may terminate this Agreement with any or all SOCWA Entities a result of that SOCWA Entity's or Entities' breach of any term or condition herein, by providing written notice

to the SOCWA Entity or Entities allegedly in breach. The notice shall provide the SOCWA Entity or Entities receiving the notice with at least ten (10) calendar days to cure or resolve the deficiency. If within ten (10) calendar days the SOCWA Entity or Entities fail to cure or resolve the deficiency to the satisfaction of CONTRACTOR, the Agreement will terminate immediately or upon such other date as may be specified in the notice; although the Agreement will remain in effect between CONTRACTOR and any SOCWA Entity other than those receiving the notice or that timely cured or resolved the alleged breach.

**Section 7.3 Effect of Termination**

Early termination of this Agreement under this Section shall be effective only as to and between the party or parties in breach and the party or parties that have issued the notice of termination. The Agreement shall remain in effect as to those parties not in breach, that have cured or resolved the alleged breach, or are not named in the notice of termination.

**Section 7.4 Compensation Upon Termination**

Following termination, SOCWA Entities will pay to CONTRACTOR the reasonable value of goods and services necessarily performed up to the effective date of the termination, minus any costs reasonably incurred by SOCWA Entities as a result of CONTRACTOR's breach.

## SECTION VIII
## WARRANTY

**Section 8.1 Warranty of Work**

**8.1.1** CONTRACTOR guarantees all work pursuant to this Agreement against defective materials or workmanship for period of one (1) year from the date of completion of all work, except where longer warranty periods are specifically stated. Any defective material or workmanship which may be discovered before completion all work or within one (1) year thereafter shall be corrected immediately by CONTRACTOR at its own expense notwithstanding that it may have been overlooked in previous inspections and estimates. Any work to correct a defect in workmanship and/or replacement materials shall additionally be guaranteed by CONTRACTOR for a period of one (1) year from the date of completion of such corrective work or replacement of materials.

**8.1.2** Failure to inspect the work or materials at any stage shall not relieve CONTRACTOR from any obligation to perform sound and reliable work as herein described. It is CONTRACTOR'S ultimate responsibility to complete all work as required by this Agreement.

**8.1.3** During the one (1) year warranty period, should CONTRACTOR fail to remedy defective material and/or workmanship, or to make replacements within five (5) days after written notice by a SOCWA Entity, it is agreed that the SOCWA Entity may make such repairs and replacements and the actual cost of the required labor or materials shall be chargeable to and payable by CONTRACTOR.

**Section 8.2 Non-Exclusive**

The warranty provided herein shall not be in lieu of, but shall be in addition to, any warranties or other obligations otherwise imposed by this Agreement or by law. The remedies provided herein shall not be exclusive and SOCWA Entities shall be entitled to any and all remedies provided by law.

## SECTION IX
## GENERAL

### Section 9.1 Entire Agreement/Modification/Interpretation

This Agreement represents the entire understanding of SOCWA Entities and CONTRACTOR as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This Agreement may not be amended, modified or altered except in writing, signed by the parties. This Agreement shall not be construed against the party preparing it, but shall be construed as if both parties prepared it.

### Section 9.2 Supremacy

In the event of any conflict between this Agreement and any attachments hereto, this Agreement shall prevail.

### Section 9.3 Notices

Any notice required or permitted to be given hereunder if not otherwise specified herein may be given or delivered by depositing the same in the United States Post Office, registered or certified, postage prepaid, or by personal service or hand delivery, and addressed to:

| | |
|---|---|
| SOCWA: | Attn: Jeanette Cotinola<br>South Orange County Wastewater Authority<br>34156 Del Obispo Street<br>Dana Point, CA 92629 |
| CSC: | City of San Clemente<br>380 Avenida Pico, Bld. N<br>San Clemente, CA 92672 |
| SMWD: | Santa Margarita Water District<br>P.O. Box 7005<br>Mission Viejo, CA 92690 |
| MNWD: | Moulton Niguel Water District<br>27500 La Paz Road<br>Laguna Niguel, CA 92677 |
| TCWD: | Trabuco Canyon Water District<br>32003 Dove Canyon Drive<br>Trabuco Canyon, CA 92679 |
| CONTRACTOR: | Attn: Boyd Stanley<br>Polydyne, Inc.<br>P.O. Box 279<br>1 Chemical Plant Rd.<br>Riceboro, GA 31323 |
| CONTRACTOR:<br>(Payment Only) | P.O. Box 404642<br>Atlanta, GA 30384-4642 |

**Section 9.4 Governing Law and Venue**

California law shall govern the interpretation of this Agreement. In the event of any legal action to enforce or interpret this Agreement, the sole and exclusive venue shall be a court of competent jurisdiction located in Orange County, California, and the parties hereto agree to and do hereby submit to the jurisdiction of such court, notwithstanding Code of Civil Procedure 394.

**Section 9.5 Attorneys' Fees**

In the event an action is commenced by either party to enforce its rights or obligations arising from this Agreement, the prevailing party in such action, in addition to any other relief and recovery awarded by the court, shall be entitled to recover all costs and expenses, including court costs, plus a reasonable amount for attorneys' fees.

**Section 9.6 Severability**

If any section of this Agreement or provision of this Agreement as applied to either party or to any circumstance shall be adjudged by a court of competent jurisdiction to be void or unenforceable for any reason, the same shall in no way affect (to the maximum extent permissible by law) any other provision of this Agreement, the application of any such provision under circumstances different from those adjudicated by the court, or the validity or enforceability of this Agreement as a whole.

**Section 9.7 Non-Exclusive**

CONTRACTOR may represent, perform services for, and contract with as many additional clients, persons, or companies as CONTRACTOR, in its sole discretion, sees fit.

**Section 9.8 Independent Contractor**

It is expressly understood and agreed that CONTRACTOR is an independent contractor and not an employee of SOCWA Entities while engaged in carrying out this Agreement. CONTRACTOR warrants that it will not represent, at any time or in any manner, that CONTRACTOR is an employee or agent of SOCWA Entities. CONTRACTOR shall have no authority to, and shall not, incur any debt, obligation or liability on behalf of SOCWA Entities. To the maximum extent allowable by law, CONTRACTOR agrees to indemnify, defend and hold harmless SOCWA Entities from any and all liability, damages or losses (including attorneys' fees, costs, penalties and fines) SOCWA Entities suffer as a result of a third party's designation of CONTRACTOR or its employee as an employee of SOCWA Entities, regardless of any actual or alleged negligence by SOCWA Entities.

**Section 9.9 No Establishment of Joint Powers**

SOCWA Entities each acknowledge and agree that this Agreement is not intended to and does not establish a joint exercise of powers arrangement under and pursuant to the laws of the State with respect to contractual matters hereunder among such agencies; further, SOCWA Entities each agree that any joint powers agreements between SOCWA Entities shall have no effect on this Agreement and the rights and obligations of the parties hereunder.

**Section 9.10 Authority**

The person signing this Agreement on behalf of each party hereto represents he or she has authority to sign on behalf of, respectively, SOCWA Entities or CONTRACTOR.

**Section 9.11 Assignment of Agreement**

No assignment of this Agreement shall be effective unless agreed to in writing by both parties.

**Section 9.12 Counterparts**

This Agreement may be executed in counterparts, each of which shall be deemed an original.

**Section 9.13 Audits**

If this Agreement involves an expenditure of public funds in excess of Ten Thousand Dollars ($10,000), the Agreement is subject to examination and audit of the State Auditor, at the request of SOCWA Entities or as part of any audit of SOCWA Entities, for a period of three (3) years after final payment under the Agreement. CONTRACTOR shall cooperate with SOCWA Entities regarding such audit at no charge to SOCWA Entities.

**Section 9.14 Provisions Required by Law**

Each and every provision of law and clause required by law to be inserted in this Agreement shall be deemed to be inserted herein, and the Agreement shall be read and enforced as though they were included herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the request of either party, the Agreement shall forthwith be physically amended to make such insertion.

**Section 9.15 Waiver**

Neither acceptance of, nor payment for any of the services provided for herein, shall be construed to operate as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement.

**IN WITNESS WHEREOF**, the parties have hereto caused this instrument to be executed the day and year first above written.

**SOUTH ORANGE COUNTY WASTEWATER AUTHORITY**

By: _____ Date: _____
General Manager

APPROVED AS TO FORM:

By: _____
General Counsel

**City of San Clemente**

By: _____ Date: _____
City Manager

**Santa Margarita Water District**

By: _____ Date: _____
General Manager

**Moulton Niguel Water District**

By: _____ Date: _____
General Manager

**Trabuco Canyon Water District**

By: _____ Date: _____
General Manager

**Polydyne, Inc.**

By: _____ Date: _____
Authorized Representative

Title: _____

**EXHIBIT A**

PROPOSAL

SNF POLYDYNE

www.polydyneinc.com

Submitted to: jcotinola@socwa.com

March 1, 2019

Jeanette Cotinola
South Orange County Wastewater Authority
34156 Del Obispo St.
Dana Point, CA 92629

RE: Request for Proposal 19-001

Ms. Cotinola,

Polydyne Inc. is pleased to submit the following proposal for the Supply and Delivery of Liquid Polyelectrolyte Chemical Flocculent (Polymer) to the South Orange County Wastewater Authority (SOCWA). Pricing for the proposed products are listed below in the format shown in Attachment 1 of the Request for Proposal.

| PRODUCT | PACKAGE | DELIVERED PRICE PER POUND |
|---|---|---|
| WE-1476, WE-1695, WE-1748, WE-1460, WE-1731 and C-6260 | BULK (>40,000 LBS.) | $1.180 |
| WE-1476, WE-1695, WE-1748, WE-1460, WE-1731 and C-6260 | BULK (<40,000 LBS) | $1.320 |
| WE-1476, WE-1695, WE-1748, WE-1460, WE-1731 and C-6260 | 2,300 LB. TOTES | $1.240 |
| LA-2911 | BULK (> 30,000 LBS.) | $0.140 |
| LA-2911 | BULK (<30,000 LBS.) | $0.230 |
| LA-2911 | 2,300 LB. TOTES | $0.230 |
| C-9455 OR C-6258 | TOTES | $1.170 |
| C-2005 | 550 LB DRUM | $0.60 |
| ADDITIONAL FEE FOR SPLIT LOADS | | $0.010 |

Pricing shown above is firm for the two years of the contract period. Polydyne Inc. suggests that price adjustments for the subsequent three one-year renewals be based upon the Producer Price Index Plastics material and resins manufacturing - PCU325211325211.

Boyd Stanley, Vice-President

03/01/19
Date

# DESCRIPTION OF THE FIRM

POLYDYNE INC. ("POLYDYNE") is a wholly owned subsidiary of SNF HOLDING COMPANY ("SNFHC"). POLYDYNE is the largest supplier of water-soluble polymers to the municipal market in the United States. In addition to POLYDYNE, SNFHC operates nine manufacturing plants in the United States. We are a fully integrated manufacturing company and produce several of our key raw materials. POLYDYNE is also the only polymer supplier that offers a full range of polymer i.e. powders, emulsion and solutions. Worldwide our company has been in operation for over 40 years.

POLYDYNE's exclusive charter is to be the direct marketing organization for all SNFHC produced products, to the municipal market, in the United States, particularly those requiring "Manufacturer Only".

Boyd Stanley, Vice-President

03/01/19
Date

**WRITTEN CONSENT OF THE BOARD OF DIRECTORS OF POLYDYNE INC.**

**The undersigned, being all of the directors of Polydyne, Inc., a Delaware Corporation (the "Corporation"), hereby approve and adopt the following resolutions by written consent:**

Municipal Contract Authorization

RESOLVED, that Boyd Stanley, Rene Pich, Peter Nichols, John Pittman, Mark Schlag, Bobby Wise and Ken Luke be and hereby are authorized, empowered and directed to bid, in the name of and on behalf of the Corporation, upon such municipal projects as he may deem appropriate; and further

RESOLVED, that Boyd Stanley, Rene Pich, Peter Nichols, James R. Carlson, Mark Schlag, Bobby Wise and Ken Luke be and hereby are authorized and empowered to execute and deliver, in the name of and on behalf of the Corporation, all documents, instruments, certificate, agreements and papers as he may deem advisable or necessary or proper to effect the Corporation's municipal bids or the transactions contemplated thereby; and further

RESOLVED, that the President, Senior Vice President, Vice President, Secretary, Treasurer, and Assistant Secretary or Director of the Corporation be and hereby is authorized and empowered, and to the extent necessary or advisable, directed, to attest the execution of any document executed pursuant to these resolutions, and to affix the seal of the Corporation thereto, and to certify under seal to any municipality the adoption of these resolutions; and further

RESOLVED, that the authorizations granted under these resolutions shall expire on January 09, 2020.

IN WITNESS WHEREOF, the undersigned, constituting all of the directors of the Corporation, have executed this Consent the 9th day of January, 2018.

Rene Pich

Peter Nichols

Rene Hund

Pascal Remy

John Pittman

I attest to the authenticity of this copy of the Resolution of the Board of Directors. This resolution is still valid and in effect as of date signed.

Boyd Stanley, Vice-President
Date:03/01/2019

# Polydyne Inc.
## General Information

| | |
|---|---|
| **Federal Identification No.** | **34-1810283** |
| **State of Incorporation:** | **Delaware** |
| **Date of Incorporation:** | **August 21, 1995** |
| **Administrative Offices:** | **P.O. Box 279,<br>1 Chemical Plant Road<br>Riceboro, GA 31323** |
| **Payment Address:** | **P.O. Box 404642<br>Atlanta, GA 30384-4642** |

## Board of Directors

**René Pich, Pascal Remy, John Pittman, Peter Nichols, René Hund**

## Officers

| | |
|---|---|
| **President** | **John Pittman** |
| **Secretary** | **Christopher Gannon** |
| **Vice President Finance, Assistant Secretary, Treasurer** | **Mark Schlag** |
| **Vice President** | **Boyd Stanley** |
| **Vice President** | **Ken Luke** |

## *Authorized Signers-Non Officers

| | |
|---|---|
| **Bobby Wise** | **Controller** |

## Ownership Disclosure

| Corporation | Percent Ownership | Owner |
|---|---|---|
| **Polydyne Inc.** | **100** | **SNF Holding Company** |
| **SNF Holding Company** | **100** | **SPCM SA** |
| **SPCM SA** | **100** | **Mr. René PICH holds and controls 100% of the shares of SPCM SA, a company duly organized and existing under the laws of France, whose registered office is in ZAC de Milieux, Andrézieux, (42163), FRANCE, registered under the number 312 327 737 in the Commercial Registry of the town of Saint-Etienne (42000), FRANCE.** |

**Rev. 1/2018**

# POLYDYNE INC. LOCATIONS AND CONTACT INFORMATION

## HEADQUARTERS

ONE CHEMICAL PLANT RD.
RICEBORO, GA 31323

## ADDITIONAL SHIPPING LOCATIONS

3929 MEDFORD STREET
LOS ANGELES, CA 90063

813 18TH STREET
PARKER, AZ 85344

501 NICHOLS RD.
PITTSBURG, CA 94565

## CONTACT INFORMATION FOR KEY PERSONNEL

Caesar Querol – Technical Sales Representative
983 South Natalie Lane
Anaheim, ca 92808
Ph.: (610) 669-8477
E-mail: cquerol@polydyneinc.com

Olawale "Wale" Igbekoi – Technical Service Representative
824 S. Knott Avenue
Anaheim, CA 92804
Ph.: (661) 803-2466
E-mail: oigbekoyi@polydyneinc.com

Rawlin Castro – Regional Sales Manager
158 Granville Way
San Francisco, CA 94127
Ph.: (415) 218-6089
E-mail: RCastro@polydyneinc.com

Boyd Stanley – Vice-President
One Chemical Plant Rd.
Riceboro, GA 31323
Ph.: (912) 880-2035
E-mail: bstanley@polydyneinc.com

Chrystal Bailey – Customer Service Representative
One Chemical Plant Rd.
Riceboro, GA 31323
Ph.: (800) 848-7659 ext. 8719
E-mail: CBailey@snfhq.com

# DESCRIPTION OF THE MANUFACTURING PROCESS AND FACILITIES

CONFIDENTIAL

Polydyne Inc. manufactures a full line of polymer products including emulsion, solution and dry products. Emulsion products are manufactured at our locations is Riceboro, GA and Plaquemines, LA. The Riceboro, GA facility has total emulsion capacity in excess of 170,000 dry tons per year with storage capacity for 70,000 dry tons. Specific emulsion products to be supplied to SOCWA and its associate agencies are Clarifloc WE-1476, WE-1731, C-9455, WE-1460, WE-1695, WE-1748, C-6258, and C-6260. These products may be shipped from the Riceboro, GA facility, the Parker, AZ facility, or the Los Angeles, CA facility.

Solution products, which include Clarifloc LA-2911, are produced in multiple locations strategically placed across the United States. Clarifloc LA-2911 will be shipped from our Los Angeles facility. The product capacity for products similar to Clarifloc LA-2911 is in excess of eighteen millions pounds per month. Clarifloc C-2005 will be shipped from the Pittsburg, CA facility.

In addition to producing our finished polymers, Polydyne Inc. and SNF Holding Company are vertically integrated in order to produce several key raw materials necessary for the polymerization process. This vertical integration ensures a consistent supply these raw materials. Additionally, production of these key raw materials reduces the cost of our polymer products, which is a benefit Polydyne Inc. passes along to its customers.

Polydyne Inc. maintains agreements with the largest common carriers instead of entering into subcontracts with a specific carrier for delivery of polymer products to a specific customer. By utilizing a pool of common carriers to deliver our polymer products, Polydyne Inc. is ensuring that resources are available whenever our product needs to be shipped, thus minimizing delayed deliveries.

Polydyne Inc. intends to utilize Pace Analytical Services for the required third party laboratory analysis. This laboratory analysis will be ready for your review within 30 days. Pace Analytical Services will also be utilized for all subsequent testing that will be required on a quarterly basis.

## PROPOSER INTRODUCTION

Polydyne Inc. has been exclusively a supplier to the municipal market for the water and wastewater treatment industry for its entire history of twenty-two years. During this time Polydyne Inc. has established itself as a leader in the water and wastewater treatment industry. Currently Polydyne Inc. supplies in excess of 2,000 municipalities in the United States. In addition to the customers provide on our reference list, as small listing of current emulsion customers is provided below.

| | | |
|---|---|---|
| City of Atlanta, GA | City of Baton Rouge, LA | MWRD of Greater Chicago, IL |
| City of Dallas, TX | Erie County, NY | City of Fresno, CA |
| Gwinnett County, GA | City of Hartford, CT | City of Independence, MO |
| JEA, FL | City of Kalamazoo, MI | LA County Sanitation District |
| City of Memphis | NYCDEP, NY | City of Olathe, KS |
| Passaic Valley S.C., NJ | Quantico Marine Base, VA | City of Richmond, VA |
| City of Santa Rosa, CA | City of Toledo, OH | City of Ukiah, CA |
| City of Vermillion, OH | City of West Palm Beach, VA | City of Yuma, AZ |

Polydyne Inc. has a Sales and Service Staff of twenty-three professionals. Many of these individuals are degreed Chemical Engineers. Polydyne's field personnel are strategically placed throughout the United States to ensure that on-site technical assistance is readily available to our customers, if and when needed. Polydyne's sales force is supported by a large number of chemists working in our manufacturing facilities in the United States as well as those abroad. The sales representative for the South Orange County Wastewater Authority is Mr. Caesar Querol. Mr. Querol has extensive experience with many different applications. Mr. Querol contact information is listed below.

Caesar Querol – Technical Sales Representative
983 South Natalie Lane
Anaheim, ca 92808
Ph.: (610) 669-8477
E-mail: cquerol@polydyneinc.com

Mr. Querol works closely with the Regional Sales Manager for the Western United States, Mr. Rawlin Castro. Mr. Castro has been in the Water and Wastewater Treatment Industry for over twenty years and is a graduate of the United States Military Academy with a Chemical Engineer degree. Mr. Castro's contact information is below.

Rawlin Castro, Regional Sales Manager
158 Granville Way
San Francisco, CA 94127
Cell: (415) 218-6089
E-mail: rcastro@polydyneinc.com

# REFERENCES

BUFFALO SEWER AUTHORITY
90 W. FERRY ST.
BUFFALO, NY 14213
CONTACT: ALEX EMMERSON
PH.: (716) 913-7545
EMAIL: AEMMERSON@SA.CI.BUFFALO.NY.US
CONTRACT DATES: 04/24/12 – 06/30/19
CONTRACT VOLUME: 800,000 POUNDS PER YEAR

LOUISVILLE M.S.D.
4522 ALGONQUIN PARKWAY
LOUISVILLE, KY 40211
CONTACT: ROBIN BURCH
PH.: (502) 372-7646
EMAIL: ROBIN.BURCH@LOUISVILLEMSD.ORG
CONTRACT DATES: 05/09/13 – 06/30/19
CONTRACT VOLUME: 1,600,000.00 PER YEAR

LOS ANGELES COUNTY SANITATION DISTRICT
24501 SOUTH FIGUEROA ST.
WHITTIER, CA 90601
CONTACT: MALIKA JONES
PH: (310) 830-2400
EMAIL: MJONES@LACSD.ORG
CONTRACT DATES: 01/23/18 – 03/04/19
CONTRACT VOLUME: 5,000,000 POUNDS PER YEAR

CITY OF ATLANTA
2440 BOLTON RD. N.W.
ATLANTA, GA 30318
CONTACT: DANIEL SABOU
PH.: (404) 565-8903
EMAIL: DSABOU@ATLANTAGA.GOV
CONTRACT DATE: 02/28/14 – 03/04/21
CONTRACT VOLUME: 1,350,000 PER YEAR

# ABILITY TO PROVIDE SCOPE OF SERVICES

Polydyne Inc. is confident in its ability to supply the polymer products indicated in Request for Proposal 19-001 for a number of reasons.

First is Polydyne Inc.'s role as the largest supplier of polymers for water and wastewater treatment to the municipal market of the United States. Polydyne Inc. offers the most complete line of polymers of any manufacturer.

Secondly, our team of sales and service technicians is peerless. There is no other polymer manufacturer in the United States that can match the service expertise that Polydyne Inc. maintains.

Thirdly, Polydyne Inc.'s stability is a strong benefit for our customers. Polydyne Inc. was incorporated in 1995 under the name of Polydyne Inc. and still does business as Polydyne Inc., while our competitors undergo endless acquisitions and mergers.

Finally, Polydyne Inc. has been the supplier of polymer products to the South Orange County Wastewater Authority for the past decade. This familiarity ensures Polydyne Inc.'s awareness of the intricacies of each application at each facility.

**Company Name:** **POLYDYNE INC.**

| Product | Active Ingredient(s) | Inactive Ingredient(s) |
|---|---|---|
| **CLARIFLOC™ LA-2911** | • Copolymer acrylamide / (N,N-dimethyl-amino)-methyl-N-acrylamide | • Water |
| **CLARIFLOC™ WE-1476** | • Acrylamide / Ethanaminium, N,N,N-trimethyl-2-((1-oxo-2-propenyl)oxy)-, chloride copolymer | • Water<br>• Distillates (petroleum), hydrotreated light<br>• Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched<br>• Proprietary surfactant package |
| **CLARIFLOC™ WE-1695** | • Acrylamide / Ethanaminium, N,N,N-trimethyl-2-((1-oxo-2-propenyl)oxy)-, chloride copolymer | • Water<br>• Distillates (petroleum), hydrotreated light<br>• Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched<br>• Proprietary surfactant package |
| **CLARIFLOC™ WE-1731** | • Copolymer of acrylamide / sodium acrylate | • Water<br>• Distillates (petroleum), hydrotreated light<br>• Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched<br>• Proprietary surfactant package |
| **CLARIFLOC™ WE-1748** | • Acrylamide / Ethanaminium, N,N,N-trimethyl-2-((1-oxo-2-propenyl)oxy)-, chloride copolymer | • Water<br>• Distillates (petroleum), hydrotreated light<br>• Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched<br>• Proprietary surfactant package |
| **CLARIFLOC™ C-2005** | • Poly diallyl dimethyl ammonium chloride<br>• Alum | • Water |
| **CLARIFLOC™ WE-1460** | • Acrylamide / Ethanaminium, N,N,N-trimethyl-2-((1-oxo-2-propenyl)oxy)-, chloride copolymer | • Water<br>• Distillates (petroleum), hydrotreated light<br>• Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched<br>• Proprietary surfactant package |
| **CLARIFLOC™ C-6258** | • Acrylamide / Ethanaminium, N,N,N-trimethyl-2-((1-oxo-2-propenyl)oxy)-, chloride copolymer | • Water<br>• Distillates (petroleum), hydrotreated light<br>• Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched<br>• Proprietary surfactant package |
| **CLARIFLOC™ C-6260** | • Acrylamide / Ethanaminium, N,N,N-trimethyl-2-((1-oxo-2-propenyl)oxy)-, chloride copolymer | • Water<br>• Distillates (petroleum), hydrotreated light<br>• Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched<br>• Proprietary surfactant package |
| **CLARIFLOC™ C-9455** | • Acrylamide / Ethanaminium, N,N,N-trimethyl-2-((1-oxo-2-propenyl)oxy)-, chloride copolymer | • Water<br>• Distillates (petroleum), hydrotreated light<br>• Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched<br>• Proprietary surfactant package |

8-20-19 / 6Q-28

# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 12/27/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

| PRODUCER | CONTACT NAME: |
|---|---|
| Frenkel & Company, an EPIC company<br>350 Hudson Street – 4th Floor<br>New York, NY 10014<br>Phone No.: (212) 488-0200<br>Fax No.: (212) 488-0220 | PHONE (A/C, No, Ext): FAX (A/C, No): |
| | E-MAIL ADDRESS: |

| INSURER(S) AFFORDING COVERAGE | | NAIC # |
|---|---|---|
| INSURER A: | AIG SPECIALTY INSURANCE COMPANY | 26883 |
| INSURER B: | COMMERCE & INDUSTRY INSURANCE COMPANY | 19410 |
| INSURER C: | TRUMBULL INSURANCE COMPANY | 27120 |
| INSURER D: | | |
| INSURER E: | | |
| INSURER F: | | |

INSURED

Polydyne Inc.
One Chemical Plant Road
PO Box 250
Riceboro GA 31323

**COVERAGES** **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS | |
|---|---|---|---|---|---|---|---|---|
| A | X COMMERCIAL GENERAL LIABILITY | X | | EG14362834 | 12/31/2018 | 12/31/2019 | EACH OCCURRENCE | $1,000,000 |
| | CLAIMS-MADE X OCCUR | | | | | | DAMAGE TO RENTED PREMISES (Ea occurrence) | $500,000 |
| | | | | | | | MED EXP (Any one person) | $25,000 |
| | | | | | | | PERSONAL & ADV INJURY | $1,000,000 |
| | GEN'L AGGREGATE LIMIT APPLIES PER: | | | | | | GENERAL AGGREGATE | $2,000,000 |
| | POLICY PRO-JECT LOC | | | | | | PRODUCTS - COMP/OP AGG | $2,000,000 |
| | OTHER: | | | | | | | $ |
| B | AUTOMOBILE LIABILITY | X | | CA4691818 | 12/31/2018 | 12/31/2019 | COMBINED SINGLE LIMIT (Ea accident) | $1,000,000 |
| | X ANY AUTO | | | | | | BODILY INJURY (Per person) | $ |
| | ALL OWNED AUTOS / SCHEDULED AUTOS | | | | | | BODILY INJURY (Per accident) | $ |
| | X HIRED AUTOS / X NON-OWNED AUTOS | | | | | | PROPERTY DAMAGE (Per accident) | $ |
| | | | | | | | | $ |
| A | UMBRELLA LIAB X OCCUR | | | EGU18403155 | 12/31/2018 | 12/31/2019 | EACH OCCURRENCE | $5,000,000 |
| | X EXCESS LIAB / CLAIMS-MADE | | | | | | AGGREGATE | $5,000,000 |
| | DED / RETENTION $ | | | | | | | $ |
| C | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N | | | 10WNR30600 | 12/31/2018 | 12/31/2019 | X PER STATUTE / OTH-ER | |
| | ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N/A | | | | | | E.L. EACH ACCIDENT | $1,000,000 |
| | (Mandatory in NH) | | | | | | E.L. DISEASE - EA EMPLOYEE | $1,000,000 |
| | If yes, describe under DESCRIPTION OF OPERATIONS below | | | | | | E.L. DISEASE - POLICY LIMIT | $1,000,000 |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Certificate Holder is an additional insured as required by contract between the holder and Polydyne Inc. as required by contract and subject to the policy terms conditions and exclusions.

30 DAY CANCELLATION CLAUSE INCLUDED

**CERTIFICATE HOLDER**

South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92529

**CANCELLATION**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISION

AUTHORIZED REPRESENTATIVE

SNF POLYDYNE

# SAFETY DATA SHEET

According to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

*1.1. Product identifier*

*Product name:* **CLARIFLOC™ LA-2911**

*Type of product:* Mixture.

*1.2. Relevant identified uses of the substance or mixture and uses advised against*

*Identified uses:* Processing aid for industrial applications.

*Uses advised against:* None.

*1.3. Details of the supplier of the safety data sheet*

*Company:* Polydyne Inc.
1 Chemical Plant Road
PO BOX 279, Riceboro, GA 31323
United States

*Telephone:* 1-800-848-7659

*Telefax:* (912)-884-8770

*E-mail address:* -

*1.4. Emergency telephone number*

*24-hour emergency number:* 1-800-424-9300

## SECTION 2: Hazards identification

*2.1. Classification of the substance or mixture*

*Classification according to paragraph (d) of 29 CFR 1910.1200:*

Not classified.

*2.2. Label elements*

*Labelling according to paragraph (f) of 29 CFR 1910.1200:*

| | |
|---|---|
| *Hazard symbol(s):* | None. |
| *Signal word:* | None. |
| *Hazard statement(s):* | None. |
| *Precautionary statement(s):* | None. |

*2.3. Other hazards*

Spills produce extremely slippery surfaces.

## SECTION 3: Composition/Information on Ingredients

*3.1. Substances*
Not applicable, this product is a mixture.

*3.2. Mixtures*
This product is a mixture.

*Hazardous components*

*Formaldehyde*

| | |
|---|---|
| *Concentration/ -range:* | < 0.1% |
| *CAS Number:* | 50-00-0 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Flam. Liq. 4;H227, Acute Tox. 3;H301, Acute Tox. 3;H311, Acute Tox. 3;H331, Skin Corr. 1B;H314, Skin Sens. 1A;H317, Carc. 1B;H350, Muta. 2;H341 |

For explanation of abbreviations see section 16

## SECTION 4: First aid measures

*4.1. Description of first aid measures*

*Inhalation:*
Move to fresh air. No hazards which require special first aid measures.

*Skin contact:*
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

*Eye contact:*
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Alternatively, rinse immediately with Diphoterine ®. Get prompt medical attention.

*Ingestion:*
Rinse mouth with water. Do NOT induce vomiting. Get medical attention immediately if symptoms occur.

*4.2. Most important symptoms and effects, both acute and delayed*

Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

*4.3. Indication of any immediate medical attention and special treatment needed.*

None reasonably foreseeable.

*Other information:*
None.

## SECTION 5: Fire-fighting measures

*5.1. Extinguishing media*

*Suitable extinguishing media:*
Water. Water spray. Foam. Carbon dioxide (CO2). Dry powder.
Warning! Spills produce extremely slippery surfaces.

*Unsuitable extinguishing media:*
None.

*5.2. Special hazards arising from the substance or mixture*

*Hazardous decomposition products:*
Thermal decomposition may produce: nitrogen oxides (NOx), carbon oxides (COx). Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

*5.3. Advice for fire-fighters*

*Protective measures:*
Wear self-contained breathing apparatus and protective suit.

*Other information:*
Spills produce extremely slippery surfaces.

## SECTION 6: Accidental release measures

*6.1. Personal precautions, protective equipment and emergency procedures*

*Personal precautions:*
Do not touch or walk through spilled material. Spills produce extremely slippery surfaces.

*Protective equipment:*
Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

*Emergency procedures:*
Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

*6.2. Environmental precautions*

As with all chemical products, do not flush into surface water.

*6.3. Methods and material for containment and cleaning up*

Small spills:
Do not flush with water.Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large spills:
Do not flush with water.Dam up. Clean up promptly by scoop or vacuum.

Residues:
Soak up with inert absorbent material. After cleaning, flush away traces with water.

*6.4. Reference to other sections*

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

## SECTION 7: Handling and storage

*7.1. Precautions for safe handling*

Avoid contact with skin and eyes. Renders surfaces extremely slippery when spilled. When using, do not eat, drink or smoke.

*7.2. Conditions for safe storage, including any incompatibilities*

Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material. Incompatible with oxidizing agents.

*7.3. Specific end use(s)*

None.

## SECTION 8: Exposure controls/personal protection

*8.1. Control parameters*

*Occupational exposure limits:*

*Formaldehyde*
*OSHA:* 0.75 ppm (8 hours) ; 2 ppm (15 minutes)
*ACGIH:* 0.3 ppm (8 hours)

*8.2. Exposure controls*

*Appropriate engineering controls:*

Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists.

*Individual protection measures, such as personal protective equipment:*

*a) Eye/face protection:*
Safety glasses with side-shields.

*b) Skin protection:*
*i) Hand protection:* PVC or other plastic material gloves.
*ii) Other:* Wear coveralls and/or chemical apron and rubber footwear where physical contact can occur.

*c) Respiratory protection:*
No personal respiratory protective equipment normally required.

*d) Additional advice:*
Wash hands and face before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday.

*Environmental exposure controls:*

Do not allow uncontrolled discharge of product into the environment.

## SECTION 9: Physical and chemical properties

### *9.1. Information on basic physical and chemical properties*

| | |
|---|---|
| *a) Appearance:* | Liquid, Clear to slightly opalescent. |
| *b) Odour:* | amine-like. |
| *c) Odour Threshold:* | Not applicable. |
| *d) pH:* | 8 - 11.5 |
| *e) Melting point/freezing point:* | < 5°C |
| *f) Initial boiling point and boiling range:* | > 100°C |
| *g) Flash point:* | Does not flash. |
| *h) Evaporation rate:* | No data available. |
| *i) Flammability (solid, gas):* | Not applicable. |
| *j) Upper/lower flammability or explosive limits:* | Not expected to create explosive atmospheres. |
| *k) Vapour pressure:* | 2.3 kPa @ 20°C |
| *l) Vapour density:* | 0.804 g/litre @ 20°C |
| *m) Relative density:* | 1.0 - 1.1 |
| *n) Solubility(ies):* | Completely miscible. |
| *o) Partition coefficient:* | < 0 |
| *p) Autoignition temperature:* | Does not self-ignite (based on the chemical structure). |

| | |
|---|---|
| *q) Decomposition temperature:* | > 150°C |
| *r) Viscosity:* | See Technical Bulletin. |
| *s) Explosive properties:* | Not expected to be explosive based on the chemical structure. |
| *t) Oxidizing properties:* | Not expected to be oxidising based on the chemical structure. |

*9.2. Other information*

None.

## SECTION 10: Stability and reactivity

*10.1. Reactivity*

Stable under recommended storage conditions.

*10.2. Chemical stability*

Stable under recommended storage conditions.

*10.3. Possibility of hazardous reactions*

Oxidizing agents may cause exothermic reactions.

*10.4. Conditions to avoid*

Protect from frost, heat and sunlight.

*10.5. Incompatible materials*

Oxidizing agents.

*10.6. Hazardous decomposition products*

Thermal decomposition may produce: nitrogen oxides (NOx), carbon oxides (COx), hydrogen cyanide (hydrocyanic acid).

## SECTION 11: Toxicological information

*11.1. Information on toxicological effects*

*Information on the product as supplied:*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg |
| *Acute dermal toxicity:* | LD50/dermal/rat > 5000 mg/kg. |
| *Acute inhalation toxicity:* | Testing by the inhalation route is inappropriate because exposure of humans via inhalation is unlikely: the substance has no vapour pressure and there is practically no exposure to inhalable aerosols. |
| *Skin corrosion/irritation:* | Non-irritating to skin. |
| *Serious eye damage/eye irritation:* | Slightly irritating. |

| | |
|---|---|
| *Respiratory/skin sensitisation:* | The product contains a small amount of sensitising substances which may provoke an allergic reaction among sensitive individuals in contact with skin. |
| *Mutagenicity:* | By analogy with similar products, this product is not expected to to be mutagenic. |
| *Carcinogenicity:* | By analogy with similar substances, this substance is not expected to be carcinogenic. |
| *Reproductive toxicity:* | By analogy with similar substances, this substance is not expected to be toxic for reproduction. |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | No known effect. |
| *Aspiration hazard:* | No hazards resulting from the material as supplied. |

*Relevant information on the hazardous components:*

*Formaldehyde*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat = 5 - 50 mg/kg (OECD 401) |
| *Acute dermal toxicity:* | LD50/dermal/rat = 270 mg/kg. |
| *Acute inhalation toxicity:* | LC50/inhalation/4 hours/rat = 600 mg/m³ |
| *Skin corrosion/irritation:* | Causes severe irritation and or burns. (OECD 404) |
| *Serious eye damage/eye irritation:* | Risk of serious damage to eyes. |
| *Respiratory/skin sensitisation:* | Sensitizing to skin. (OECD 406) |
| *Mutagenicity:* | Possible mutagen. |
| *Carcinogenicity:* | May cause cancer. |
| *IARC:* | 1 |
| *Reproductive toxicity:* | Not toxic for reproduction. |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | No known effect. |
| *Aspiration hazard:* | No known effects. |

## SECTION 12: Ecological Information

### 12.1. Toxicity

*Information on the product as supplied:*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Fish/96 hours > 100 mg/L (OECD 203) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia magna/48 hours > 100 mg/L (OECD 202) |
| *Acute toxicity to algae:* | Algal inhibition tests are not appropriate. The flocculation characteristics of the product interfere directly in the test medium preventing homogenous distribution which invalidates the test. |
| *Chronic toxicity to fish:* | No data available. |
| *Chronic toxicity to invertebrates:* | No data available. |
| *Toxicity to microorganisms:* | No data available. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*Relevant information on the hazardous components:*

*Formaldehyde*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Fish/96 hours = 1 - 10 mg/L |
| *Acute toxicity to invertebrates:* | EC50/Daphnia pulex/48 hours = 10 - 100 mg/L (OECD 202) |
| *Acute toxicity to algae:* | IC50/Desmodesmus subspicatus/72 hours = 1 - 10 mg/L (OECD 201) |
| *Chronic toxicity to fish:* | No chronic exposure due to ready biodegradability. |
| *Chronic toxicity to invertebrates:* | No chronic exposure due to ready biodegradability. |
| *Toxicity to microorganisms:* | EC50/activated sludge/120 hours = 34.1 mg/L |
| *Effects on terrestrial organisms:* | Not expected to be toxic. |
| *Sediment toxicity:* | Exposure to sediment is unlikely. |

### *12.2. Persistence and degradability*

*Information on the product as supplied:*

| | |
|---|---|
| *Degradation:* | Not readily biodegradable. |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*Relevant information on the hazardous components:*

*Formaldehyde*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. > 90% / 14 days (OECD 301 C) ; > 90% / 28 days (OECD 301 D) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | Half-life (direct photolysis): 1.71 days |

*12.3. Bioaccumulative potential*

*Information on the product as supplied:*

The product is not expected to bioaccumulate.

| | |
|---|---|
| *Partition co-efficient (Log Pow):* | < 0 |
| *Bioconcentration factor (BCF):* | No data available. |

*Relevant information on the hazardous components:*

*Formaldehyde*

| | |
|---|---|
| *Partition co-efficient (Log Pow):* | 0.35 @ 25°C, pH = 3.5 |
| *Bioconcentration factor (BCF):* | < 1 |

*12.4. Mobility in soil*

*Information on the product as supplied:*

Exposure to soil is not to be expected.

*Koc:* No data available.

*Relevant information on the hazardous components:*

*Formaldehyde*

| | |
|---|---|
| *Koc:* | 15.9 |

*12.5. Other adverse effects*

None.

## SECTION 13: Disposal considerations

*13.1. Waste treatment methods*

*Waste from residues/unused products:*

Dispose in accordance with local and national regulations.

*Contaminated packaging:*

Rinse empty containers with water and use the rinse-water to prepare the working solution. If recycling is not practicable, dispose of in compliance with local regulations.

*Recycling:*

Store containers and offer for recycling of material when in accordance with the local regulations.

## SECTION 14: Transport information

*Land transport (DOT)*

Not classified.

*Sea transport (IMDG)*

Not classified.

*Air transport (IATA)*

Not classified.

## SECTION 15: Regulatory information

*15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture*

*Information on the product as supplied:*

*TSCA Chemical Substances Inventory:*

All components of this product are either listed on the inventory or are exempt from listing.

*US SARA Reporting Requirements:*

*SARA (Section 311/312) hazard class:*
Not concerned.

*SARA Title III Sections:*

*Section 302 (TPQ) - Reportable Quantity:*
Contains one or more of the listed substances.

*Section 304 - Reportable Quantity:*
Contains one or more of the listed substances.

*Section 313 (De minimis concentration):*
Contains one or more of the listed substances.

*Clean Water Act*

*Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:*
Contains one or more of the listed substances.

*Clean Air Act*

*Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:*
Contains one or more of the listed substances.

*CERCLA*

*Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:*
Contains one or more of the listed substances.

*RCRA status :*

Not RCRA hazardous.

*California Proposition 65 Information:*

WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Formaldehyde (gas), Acrylamide

*Relevant information on the hazardous components:*

*Formaldehyde*

| | |
|---|---|
| *SARA Title III Sections:* | |
| *Section 302 (TPQ) - Reportable Quantity:* | 100 lbs |
| *Section 304 - Reportable Quantity:* | 100 lbs |
| *Section 313 (De minimis concentration):* | 0.1% |
| *Clean Water Act* | |
| *Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:* | 100 lbs |
| *Clean Air Act* | |
| *Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:* | 15000 lbs |
| *CERCLA* | |
| *Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:* | 100 lbs |
| *RCRA status :* | Listed |
| *Hazardous waste number :* | U122 |
| *DOT RQ (lbs):* | 100 lbs |

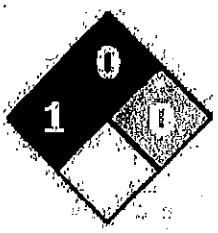
*California Proposition 65 Information:* Listed

SECTION 16: Other information

*NFPA and HMIS Ratings:*

*NFPA:*

| | |
|---|---|
| Health: | 1 |
| Flammability: | 0 |
| Instability: | 0 |




*HMIS:*

| | |
|---|---|
| Health: | 1 |
| Flammability: | 0 |
| Physical Hazard: | 0 |
| PPE Code: | B |

*This data sheet contains changes from the previous version in section(s):*

SECTION 5. Fire-fighting measures, SECTION 8. Exposure controls/personal protection, SECTION 15. Regulatory information, SECTION 16. Other Information.

*Key or legend to abbreviations and acronyms used in the safety data sheet:*

*Acronyms*
STOT = Specific target organ toxicity

*Abbreviations*
Acute Tox. 3 = Acute toxicity Category Code 3
Carc. 1B = Carcinogenicity Category Code 1B
Flam. Liq. 4 = Flammable liquid Category Code 4
Muta. 2 = Germ cell mutagenicity Category Code 2
Skin Corr. 1B = Skin corrosion/irritation Category Code 1B
Skin Sens. 1A = Skin sensitization Category Code 1A

*Hazard statements*
H227 - Combustible liquid
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H331 - Toxic if inhaled
H341 - Suspected of causing genetic defects
H350 - May cause cancer

*Training advice:*

Do not handle until all safety precautions have been read and understood.

*This SDS was prepared in accordance with the following:*

U.S. Code of Federal Regulations 29 CFR 1910.1200

Version: 17.01.a

LDCC024

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



8-20-19 / 6Q-42

SNF POLYDYNE

# SAFETY DATA SHEET

According to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

*1.1. Product identifier*

*Product name:* **CLARIFLOC™ WE-1476**

*Type of product:* Mixture.

*1.2. Relevant identified uses of the substance or mixture and uses advised against*

*Identified uses:* Processing aid for industrial applications.

*Uses advised against:* None.

*1.3. Details of the supplier of the safety data sheet*

*Company:* Polydyne Inc.
1 Chemical Plant Road
PO BOX 279, Riceboro, GA 31323
United States

*Telephone:* 1-800-848-7659

*Telefax:* (912)-884-8770

*E-mail address:* -

*1.4. Emergency telephone number*

*24-hour emergency number:* 1-800-424-9300

## SECTION 2: Hazards Identification

*2.1. Classification of the substance or mixture*

*Classification according to paragraph (d) of 29 CFR 1910.1200:*

Not classified.

*2.2. Label elements*

*Labelling according to paragraph (f) of 29 CFR 1910.1200:*

*Hazard symbol(s):* None.

*Signal word:* None.

*Hazard statement(s):* None.

*Precautionary statement(s):* None.

*2.3. Other hazards*

Spills produce extremely slippery surfaces.

For explanation of abbreviations see Section 16.

## SECTION 3: Composition/information on ingredients

*3.1. Substances*
Not applicable, this product is a mixture.

*3.2. Mixtures*
This product is a mixture.

*Hazardous components*

*Distillates (petroleum), hydrotreated light*

*Concentration/ -range:* 20 - 30%.

*CAS Number:* 64742-47-8

*Classification according to paragraph (d) of 29 CFR 1910.1200:* Asp. Tox. 1;H304

*Notes*
*Does not result in classification of the mixture if the kinematic viscosity is greater than 20.5 mm²/s measured at 40°C.*

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Concentration/ -range:* < 5%

*CAS Number:* 69011-36-5

*Classification according to paragraph (d) of 29 CFR 1910.1200:* Acute Tox. 4;H302, Eye Dam. 1;H318

For explanation of abbreviations see section 16

## SECTION 4: First aid measures

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

*Inhalation:*
Move to fresh air. No hazards which require special first aid measures.

*Skin contact:*
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

*Eye contact:*
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

*Ingestion:*
Rinse mouth with water. Do NOT induce vomiting. Call a physician or poison control centre immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

None under normal use.

### 4.3. Indication of any immediate medical attention and special treatment needed.

None reasonably foreseeable.

*Other information:*
None.

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

*Suitable extinguishing media:*
Water. Water spray. Foam. Carbon dioxide (CO2). Dry powder.
Warning! Spills produce extremely slippery surfaces.

*Unsuitable extinguishing media:*
None.

### 5.2. Special hazards arising from the substance or mixture

*Hazardous decomposition products:*
Ammonia. Carbon oxides (COx). Nitrogen oxides (NOx). Hydrogen chloride. Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

### 5.3. Advice for fire-fighters

*Protective measures:*
Wear self-contained breathing apparatus and protective suit.

*Other information:*
Spills produce extremely slippery surfaces.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

*Personal precautions:*
Do not touch or walk through spilled material. Spills produce extremely slippery surfaces.

*Protective equipment:*
Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

*Emergency procedures:*
Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

### 6.2. Environmental precautions

As with all chemical products, do not flush into surface water.

### 6.3. Methods and material for containment and cleaning up

Small spills:
Do not flush with water.Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large spills:
Do not flush with water.Dam up. Soak up with inert absorbent material. Clean up promptly by scoop or vacuum.

Residues:
After cleaning, flush away traces with water.

### 6.4. Reference to other sections

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid contact with skin and eyes. Renders surfaces extremely slippery when spilled. When using, do not eat, drink or smoke.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material. Incompatible with oxidizing agents.

### 7.3. Specific end use(s)

This information is not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

*Occupational exposure limits:*

*Distillates (petroleum), hydrotreated light*
*ACGIH:* 200 mg/m³ (8 hours)

### 8.2. Exposure controls

*Appropriate engineering controls:*

Ensure adequate ventilation, especially in confined areas. Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists.

*Individual protection measures, such as personal protective equipment:*

*a) Eye/face protection:*
Safety glasses with side-shields.

*b) Skin protection:*
*i) Hand protection:* PVC or other plastic material gloves.
*ii) Other:* Wear coveralls and/or chemical apron and rubber footwear where physical contact can occur.

*c) Respiratory protection:*
No personal respiratory protective equipment normally required.

*d) Additional advice:*
Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.

*Environmental exposure controls:*

Do not allow uncontrolled discharge of product into the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| *a) Appearance:* | Viscous liquid, Milky. |
| *b) Odour:* | Aliphatic. |
| *c) Odour Threshold:* | No data available. |
| *d) pH:* | 3.5 - 6.5 @ 5 g/L |
| *e) Melting point/freezing point:* | < 5°C |
| *f) Initial boiling point and boiling range:* | > 100°C |
| *g) Flash point:* | Does not flash. |
| *h) Evaporation rate:* | No data available. |

| | |
|---|---|
| *i) Flammability (solid, gas):* | Not applicable. |
| *j) Upper/lower flammability or explosive limits:* | Not expected to create explosive atmospheres. |
| *k) Vapour pressure:* | 2.3 kPa @ 20°C |
| *l) Vapour density:* | 0.804 g/litre @ 20°C |
| *m) Relative density:* | 1.0 - 1.2 |
| *n) Solubility(ies):* | Completely miscible. |
| *o) Partition coefficient:* | Not applicable. |
| *p) Autoignition temperature:* | Not applicable. |
| *q) Decomposition temperature:* | > 150°C |
| *r) Viscosity:* | > 20.5 mm²/s @ 40°C |
| *s) Explosive properties:* | Not expected to be explosive based on the chemical structure. |
| *t) Oxidizing properties:* | Not expected to be oxidising based on the chemical structure. |

*9.2. Other information*

None.

## SECTION 10: Stability and reactivity

*10.1. Reactivity*

Stable under recommended storage conditions.

*10.2. Chemical stability*

Stable under recommended storage conditions.

*10.3. Possibility of hazardous reactions*

Oxidizing agents may cause exothermic reactions.

*10.4. Conditions to avoid*

Protect from frost, heat and sunlight.

*10.5. Incompatible materials*

Oxidizing agents.

*10.6. Hazardous decomposition products*

Thermal decomposition may produce: hydrogen chloride gas, nitrogen oxides (NOx), carbon oxides (COx). Ammonia. Hydrogen cyanide (hydrocyanic acid).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

*Information on the product as supplied:*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (Estimated) |
| *Acute dermal toxicity:* | LD50/dermal/rat > 5000 mg/kg. (Estimated) |
| *Acute inhalation toxicity:* | The product is not expected to be toxic by inhalation. |
| *Skin corrosion/irritation:* | Non-irritating to skin. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 437) |
| *Respiratory/skin sensitisation:* | Not sensitizing. |
| *Mutagenicity:* | Not mutagenic. |
| *Carcinogenicity:* | Not carcinogenic. |
| *Reproductive toxicity:* | Not toxic for reproduction. |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | No known effect. |
| *Aspiration hazard:* | Due to the viscosity, this product does not present an aspiration hazard. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (OECD 401) |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 5000 mg/kg. (OECD 402) |
| *Acute inhalation toxicity:* | LC0/inhalation/4 hours/rat >= 4951 mg/m³ (OECD 403) (Based on results obtained from tests on analogous products) |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404)<br>Repeated exposure may cause skin dryness or cracking. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 405) |
| *Respiratory/skin sensitisation:* | By analogy with similar products, this product is not expected to be sensitizing. (OECD 406) |
| *Mutagenicity:* | Not mutagenic. (OECD 471, 473, 474, 476, 478, 479) |

| | |
|---|---|
| *Carcinogenicity:* | Carcinogenicity study in rats (OECD 451): Negative. |
| *Reproductive toxicity:* | By analogy with similar substances, this substance is not expected to be toxic for reproduction. NOAEL/rat = 300 ppm. (OECD 421) |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/90 days >= 3000 mg/kg/day (OECD 408) (Based on results obtained from tests on analogous products) |
| *Aspiration hazard:* | May be fatal if swallowed and enters airways. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat = 500 - 2000 mg/kg |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 2000 mg/kg. |
| *Acute inhalation toxicity:* | No data available. |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404) |
| *Serious eye damage/eye irritation:* | Causes serious eye irritation. (OECD 405) |
| *Respiratory/skin sensitisation:* | The results of testing on guinea pigs showed this material to be non-sensitizing. |
| *Mutagenicity:* | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. |
| *Carcinogenicity:* | Based on the absence of mutagenicity, it is unlikely that the substance is carcinogenic. |
| *Reproductive toxicity:* | Two-Generation Reproduction Toxicity (OECD 416)<br>- NOAEL/rat > 250 mg/kg/day<br>Prenatal Development Toxicity Study (OECD 414)<br>- NOAEL/Maternal toxicity/rat > 50 mg/kg/day<br>- NOAEL/Developmental toxicity/rat > 50 mg/kg/day |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/600 days = 50 mg/kg/day |
| *Aspiration hazard:* | No known effects. |

## SECTION 12: Ecological information

### 12.1. Toxicity

*Information on the product as supplied:*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Fish/96 hours = 10 - 100 mg/L (Estimated) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia magna/48 hours = 10 - 100 mg/L. (Estimated) |
| *Acute toxicity to algae:* | Algal inhibition tests are not appropriate. The flocculation characteristics of the product interfere directly in the test medium preventing homogenous distribution which invalidates the test. |
| *Chronic toxicity to fish:* | No data available. |
| *Chronic toxicity to invertebrates:* | No data available. |
| *Toxicity to microorganisms:* | No data available. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute toxicity to fish:* | LC0/Oncorhynchus mykiss/96 hours > 1000 mg/L. (OECD 203) |
| *Acute toxicity to invertebrates:* | EC0/Daphnia magna/48 hours > 1000 mg/L. (OECD 202) |
| *Acute toxicity to algae:* | IC0/Pseudokirchneriella subcapitata/72 hours > 1000 mg/L. (OECD 201) |
| *Chronic toxicity to fish:* | NOEC/Oncorhynchus mykiss/28 days > 1000 mg/L |
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1000 mg/L |
| *Toxicity to microorganisms:* | EC50/Tetrahymena pyriformis/ 48h > 1000 mg/L. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. Readily biodegradable, exposure to sediment is unlikely. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Cyprinus carpio/96 hours = 1 - 10 mg/L (OECD 203) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia/48 hours = 1 - 10 mg/L (OECD 202) |
| *Acute toxicity to algae:* | IC50/Desmodesmus subspicatus/72 hours = 1 - 10 mg/L (OECD 201) |
| *Chronic toxicity to fish:* | No data available. |

| | |
|---|---|
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1 mg/L (OECD 202) |
| *Toxicity to microorganisms:* | EC10/activated sludge/17 hours > 10000 mg/L (DIN 38412-8) |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*12.2. Persistence and degradability*

*Information on the product as supplied:*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. |
| *Hydrolysis:* | At natural pHs (>6) the polymer degrades due to hydrolysis to more than 70% in 28 days. The hydrolysis products are not harmful to aquatic organisms. |
| *Photolysis:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. 67.6% / 28 days (OECD 301 F) ; 68.8% / 28 days (OECD 306) ; 61.2% / 61 days (OECD 304 A) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. > 60% / 28 days (OECD 301 B) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*12.3. Bioaccumulative potential*

*Information on the product as supplied:*

The product is not expected to bioaccumulate.

| | |
|---|---|
| *Partition co-efficient (Log Pow):* | Not applicable. |
| *Bioconcentration factor (BCF):* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Partition co-efficient (Log Pow):* 3 - 6

*Bioconcentration factor (BCF):* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Partition co-efficient (Log Pow):* > 3

*Bioconcentration factor (BCF):* No data available.

### 12.4. Mobility in soil

*Information on the product as supplied:*

No data available.

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Koc:* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Koc:* > 5000

### 12.5. Other adverse effects

None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

*Waste from residues/unused products:*

Dispose in accordance with local and national regulations.

*Contaminated packaging:*

Rinse empty containers with water and use the rinse-water to prepare the working solution. If recycling is not practicable, dispose of in compliance with local regulations. Can be landfilled or incinerated, when in compliance with local regulations.

*Recycling:*

Store containers and offer for recycling of material when in accordance with the local regulations.

## SECTION 14: Transport Information

*Land transport (DOT)*

Not classified.

*Sea transport (IMDG)*

Not classified.

*Air transport (IATA)*

Not classified.

## SECTION 15: Regulatory Information

*15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture*

*Information on the product as supplied:*

*TSCA Chemical Substances Inventory:*

All components of this product are either listed on the inventory or are exempt from listing.

*US SARA Reporting Requirements:*

*SARA (Section 311/312) hazard class:*
Not concerned.

*SARA Title III Sections:*

*Section 302 (TPQ) - Reportable Quantity:*
Not concerned.

*Section 304 - Reportable Quantity:*
Not concerned.

*Section 313 (De minimis concentration):*
Not concerned.

*Clean Water Act*

*Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:*
Not concerned.

*Clean Air Act*

*Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:*
Not concerned.

*CERCLA*

*Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:*
Not concerned.

*RCRA status :*

Not RCRA hazardous.

*California Proposition 65 Information:*

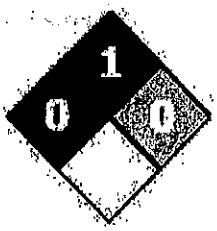
WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Acrylamide

## SECTION 16: Other Information

*NFPA and HMIS Ratings:*

*NFPA:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Instability: | 0 |




*HMIS:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Physical Hazard: | 0 |
| PPE Code: | B |

*This data sheet contains changes from the previous version in section(s):*

SECTION 8. Exposure controls/personal protection, SECTION 15. Regulatory information, SECTION 16. Other Information.

*Key or legend to abbreviations and acronyms used in the safety data sheet:*

*Acronyms*
STOT = Specific target organ toxicity

*Abbreviations*
Acute Tox. 4 = Acute toxicity Category Code 4
Asp. Tox. 1 = Aspiration hazard Category Code 1
Eye Dam 1 = Serious eye damage/eye irritation Category Code 1

*Hazard statements*
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H318 - Causes serious eye damage

*Training advice:*

Do not handle until all safety precautions have been read and understood.

*This SDS was prepared in accordance with the following:*

U.S. Code of Federal Regulations 29 CFR 1910.1200

Version: 17.01.a

ENCC046

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SNF POLYDYNE

# SAFETY DATA SHEET

According to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

*Product name:* **CLARIFLOC™ WE-1695**

*Type of product:* Mixture.

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

*Identified uses:* Processing aid for industrial applications.

*Uses advised against:* None.

### 1.3. Details of the supplier of the safety data sheet

*Company:* Polydyne Inc.
1 Chemical Plant Road
PO BOX 279, Riceboro, GA 31323
United States

*Telephone:* 1-800-848-7659

*Telefax:* (912)-884-8770

*E-mail address:* -

### 1.4. Emergency telephone number

*24-hour emergency number:* 1-800-424-9300

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

*Classification according to paragraph (d) of 29 CFR 1910.1200:*

Not classified.

### 2.2. Label elements

*Labelling according to paragraph (f) of 29 CFR 1910.1200:*

| | |
|---|---|
| *Hazard symbol(s):* | None. |
| *Signal word:* | None. |
| *Hazard statement(s):* | None. |
| *Precautionary statement(s):* | None. |

*2.3. Other hazards*

Spills produce extremely slippery surfaces.

For explanation of abbreviations see Section 16.

## SECTION 3: Composition/information on ingredients

*3.1. Substances*
Not applicable, this product is a mixture.

*3.2. Mixtures*
This product is a mixture.

*Hazardous components*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Concentration/ -range:* | 20 - 30% |
| *CAS Number:* | 64742-47-8 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Asp. Tox. 1;H304 |

*Notes*
*Does not result in classification of the mixture if the kinematic viscosity is greater than 20.5 mm²/s measured at 40°C.*

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Concentration/ -range:* | < 5% |
| *CAS Number:* | 69011-36-5 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Acute Tox. 4;H302, Eye Dam. 1;H318 |

For explanation of abbreviations see section 16

## SECTION 4: First aid measures

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

*Inhalation:*
Move to fresh air. No hazards which require special first aid measures.

*Skin contact:*
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

*Eye contact:*
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

*Ingestion:*
Rinse mouth with water. Do NOT induce vomiting. Call a physician or poison control centre immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

None under normal use.

### 4.3. Indication of any immediate medical attention and special treatment needed.

None reasonably foreseeable.

*Other information:*
None.

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

*Suitable extinguishing media:*
Water. Water spray. Foam. Carbon dioxide (CO2). Dry powder.
Warning! Spills produce extremely slippery surfaces.

*Unsuitable extinguishing media:*
None.

### 5.2. Special hazards arising from the substance or mixture

*Hazardous decomposition products:*
Ammonia. Carbon oxides (COx). Nitrogen oxides (NOx). Hydrogen chloride. Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

### 5.3. Advice for fire-fighters

*Protective measures:*
Wear self-contained breathing apparatus and protective suit.

*Other information:*
Spills produce extremely slippery surfaces.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

*Personal precautions:*
Do not touch or walk through spilled material. Spills produce extremely slippery surfaces.

*Protective equipment:*
Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

*Emergency procedures:*
Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

### 6.2. Environmental precautions

As with all chemical products, do not flush into surface water.

### 6.3. Methods and material for containment and cleaning up

Small spills:
Do not flush with water.Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large spills:
Do not flush with water.Dam up. Soak up with inert absorbent material. Clean up promptly by scoop or vacuum.

Residues:
After cleaning, flush away traces with water.

### 6.4. Reference to other sections

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid contact with skin and eyes. Renders surfaces extremely slippery when spilled. When using, do not eat, drink or smoke.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material. Incompatible with oxidizing agents.

### 7.3. Specific end use(s)

This information is not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

*Occupational exposure limits:*

*Distillates (petroleum), hydrotreated light*
*ACGIH:* 200 mg/m³ (8 hours)

*8.2. Exposure controls*

*Appropriate engineering controls:*

Ensure adequate ventilation, especially in confined areas. Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists.

*Individual protection measures, such as personal protective equipment:*

*a) Eye/face protection:*
Safety glasses with side-shields.

*b) Skin protection:*
*i) Hand protection:* PVC or other plastic material gloves.
*ii) Other:* Wear coveralls and/or chemical apron and rubber footwear where physical contact can occur.

*c) Respiratory protection:*
No personal respiratory protective equipment normally required.

*d) Additional advice:*
Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.

*Environmental exposure controls:*

Do not allow uncontrolled discharge of product into the environment.

## SECTION 9: Physical and chemical properties

*9.1. Information on basic physical and chemical properties*

| | |
|---|---|
| *a) Appearance:* | Viscous liquid, Milky. |
| *b) Odour:* | Aliphatic. |
| *c) Odour Threshold:* | No data available. |
| *d) pH:* | 3.5 - 6.5 @ 5 g/L |
| *e) Melting point/freezing point:* | < 5°C |
| *f) Initial boiling point and boiling range:* | > 100°C |
| *g) Flash point:* | Does not flash. |
| *h) Evaporation rate:* | No data available. |

| | |
|---|---|
| *i) Flammability (solid, gas):* | Not applicable. |
| *j) Upper/lower flammability or explosive limits:* | Not expected to create explosive atmospheres. |
| *k) Vapour pressure:* | 2.3 kPa @ 20°C |
| *l) Vapour density:* | 0.804 g/litre @ 20°C |
| *m) Relative density:* | 1.0 - 1.2 |
| *n) Solubility(ies):* | Completely miscible. |
| *o) Partition coefficient:* | Not applicable. |
| *p) Autoignition temperature:* | Not applicable. |
| *q) Decomposition temperature:* | > 150°C |
| *r) Viscosity:* | > 20.5 mm²/s @ 40°C |
| *s) Explosive properties:* | Not expected to be explosive based on the chemical structure. |
| *t) Oxidizing properties:* | Not expected to be oxidising based on the chemical structure. |

*9.2. Other information*

None.

SECTION 10: Stability and reactivity

*10.1. Reactivity*

Stable under recommended storage conditions.

*10.2. Chemical stability*

Stable under recommended storage conditions.

*10.3. Possibility of hazardous reactions*

Oxidizing agents may cause exothermic reactions.

*10.4. Conditions to avoid*

Protect from frost, heat and sunlight.

*10.5. Incompatible materials*

Oxidizing agents.

*10.6. Hazardous decomposition products*

Thermal decomposition may produce: hydrogen chloride gas, nitrogen oxides (NOx), carbon oxides (COx). Ammonia. Hydrogen cyanide (hydrocyanic acid).

## SECTION 11: Toxicological Information

### 11.1. Information on toxicological effects

*Information on the product as supplied:*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (Estimated) |
| *Acute dermal toxicity:* | LD50/dermal/rat > 5000 mg/kg. (Estimated) |
| *Acute inhalation toxicity:* | The product is not expected to be toxic by inhalation. |
| *Skin corrosion/irritation:* | Non-irritating to skin. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 437) |
| *Respiratory/skin sensitisation:* | Not sensitizing. |
| *Mutagenicity:* | Not mutagenic. |
| *Carcinogenicity:* | Not carcinogenic. |
| *Reproductive toxicity:* | Not toxic for reproduction. |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | No known effect. |
| *Aspiration hazard:* | Due to the viscosity, this product does not present an aspiration hazard. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (OECD 401) |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 5000 mg/kg. (OECD 402) |
| *Acute inhalation toxicity:* | LC0/inhalation/4 hours/rat >= 4951 mg/m³ (OECD 403) (Based on results obtained from tests on analogous products) |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404)<br>Repeated exposure may cause skin dryness or cracking. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 405) |
| *Respiratory/skin sensitisation:* | By analogy with similar products, this product is not expected to be sensitizing. (OECD 406) |
| *Mutagenicity:* | Not mutagenic. (OECD 471, 473, 474, 476, 478, 479) |

| | |
|---|---|
| *Carcinogenicity:* | Carcinogenicity study in rats (OECD 451): Negative. |
| *Reproductive toxicity:* | By analogy with similar substances, this substance is not expected to be toxic for reproduction. NOAEL/rat = 300 ppm. (OECD 421) |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/90 days >= 3000 mg/kg/day (OECD 408) (Based on results obtained from tests on analogous products) |
| *Aspiration hazard:* | May be fatal if swallowed and enters airways. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat = 500 - 2000 mg/kg |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 2000 mg/kg. |
| *Acute inhalation toxicity:* | No data available. |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404) |
| *Serious eye damage/eye irritation:* | Causes serious eye irritation. (OECD 405) |
| *Respiratory/skin sensitisation:* | The results of testing on guinea pigs showed this material to be non-sensitizing. |
| *Mutagenicity:* | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. |
| *Carcinogenicity:* | Based on the absence of mutagenicity, it is unlikely that the substance is carcinogenic. |
| *Reproductive toxicity:* | Two-Generation Reproduction Toxicity (OECD 416)<br>- NOAEL/rat > 250 mg/kg/day<br>Prenatal Development Toxicity Study (OECD 414)<br>- NOAEL/Maternal toxicity/rat > 50 mg/kg/day<br>- NOAEL/Developmental toxicity/rat > 50 mg/kg/day |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/600 days = 50 mg/kg/day |
| *Aspiration hazard:* | No known effects. |

## SECTION 12: Ecological Information

### *12.1. Toxicity*

*Information on the product as supplied:*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Fish/96 hours = 10 - 100 mg/L (Estimated) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia magna/48 hours = 10 - 100 mg/L. (Estimated) |
| *Acute toxicity to algae:* | Algal inhibition tests are not appropriate. The flocculation characteristics of the product interfere directly in the test medium preventing homogenous distribution which invalidates the test. |
| *Chronic toxicity to fish:* | No data available. |
| *Chronic toxicity to invertebrates:* | No data available. |
| *Toxicity to microorganisms:* | No data available. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute toxicity to fish:* | LC0/Oncorhynchus mykiss/96 hours > 1000 mg/L. (OECD 203) |
| *Acute toxicity to invertebrates:* | EC0/Daphnia magna/48 hours > 1000 mg/L. (OECD 202) |
| *Acute toxicity to algae:* | IC0/Pseudokirchneriella subcapitata/72 hours > 1000 mg/L. (OECD 201) |
| *Chronic toxicity to fish:* | NOEC/Oncorhynchus mykiss/28 days > 1000 mg/L |
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1000 mg/L |
| *Toxicity to microorganisms:* | EC50/Tetrahymena pyriformis/ 48h > 1000 mg/L. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. Readily biodegradable, exposure to sediment is unlikely. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Cyprinus carpio/96 hours = 1 - 10 mg/L (OECD 203) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia/48 hours = 1 - 10 mg/L (OECD 202) |
| *Acute toxicity to algae:* | IC50/Desmodesmus subspicatus/72 hours = 1 - 10 mg/L (OECD 201) |
| *Chronic toxicity to fish:* | No data available. |

| | |
|---|---|
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1 mg/L (OECD 202) |
| *Toxicity to microorganisms:* | EC10/activated sludge/17 hours > 10000 mg/L (DIN 38412-8) |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*12.2. Persistence and degradability*

*Information on the product as supplied:*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. |
| *Hydrolysis:* | At natural pHs (>6) the polymer degrades due to hydrolysis to more than 70% in 28 days. The hydrolysis products are not harmful to aquatic organisms. |
| *Photolysis:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. 67.6% / 28 days (OECD 301 F) ; 68.8% / 28 days (OECD 306) ; 61.2% / 61 days (OECD 304 A) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. > 60% / 28 days (OECD 301 B) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*12.3. Bioaccumulative potential*

*Information on the product as supplied:*

The product is not expected to bioaccumulate.

| | |
|---|---|
| *Partition co-efficient (Log Pow):* | Not applicable. |
| *Bioconcentration factor (BCF):* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Partition co-efficient (Log Pow):* 3 - 6

*Bioconcentration factor (BCF):* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Partition co-efficient (Log Pow):* > 3

*Bioconcentration factor (BCF):* No data available.

### 12.4. Mobility in soil

*Information on the product as supplied:*

No data available.

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Koc:* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Koc:* > 5000

### 12.5. Other adverse effects

None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

*Waste from residues/unused products:*

Dispose in accordance with local and national regulations.

*Contaminated packaging:*

Rinse empty containers with water and use the rinse-water to prepare the working solution. If recycling is not practicable, dispose of in compliance with local regulations. Can be landfilled or incinerated, when in compliance with local regulations.

*Recycling:*

Store containers and offer for recycling of material when in accordance with the local regulations.

## SECTION 14: Transport information

*Land transport (DOT)*

Not classified.

*Sea transport (IMDG)*

Not classified.

*Air transport (IATA)*

Not classified.

## SECTION 15: Regulatory information

*15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture*

*Information on the product as supplied:*

*TSCA Chemical Substances Inventory:*

All components of this product are either listed on the inventory or are exempt from listing.

*US SARA Reporting Requirements:*

*SARA (Section 311/312) hazard class:*
Not concerned.

*SARA Title III Sections:*

*Section 302 (TPQ) - Reportable Quantity:*
Not concerned.

*Section 304 - Reportable Quantity:*
Not concerned.

*Section 313 (De minimis concentration):*
Not concerned.

*Clean Water Act*

*Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:*
Not concerned.

*Clean Air Act*

*Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:*
Not concerned.

*CERCLA*

*Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:*
Not concerned.

*RCRA status :*

Not RCRA hazardous.

*California Proposition 65 Information:*

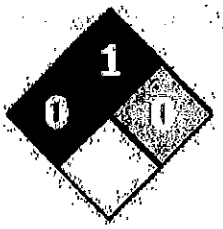
WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Acrylamide

## SECTION 16: Other Information

*NFPA and HMIS Ratings:*

*NFPA:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Instability: | 0 |




*HMIS:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Physical Hazard: | 0 |
| PPE Code: | B |

*This data sheet contains changes from the previous version in section(s):*

SECTION 8. Exposure controls/personal protection, SECTION 15. Regulatory information, SECTION 16. Other Information.

*Key or legend to abbreviations and acronyms used in the safety data sheet:*

*Acronyms*
STOT = Specific target organ toxicity

*Abbreviations*
Acute Tox. 4 = Acute toxicity Category Code 4
Asp. Tox. 1 = Aspiration hazard Category Code 1
Eye Dam 1 = Serious eye damage/eye irritation Category Code 1

*Hazard statements*
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H318 - Causes serious eye damage

*Training advice:*

Do not handle until all safety precautions have been read and understood.

*This SDS was prepared in accordance with the following:*

U.S. Code of Federal Regulations 29 CFR 1910.1200

Version: 17.01.a

ENCC046

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SNF POLYDYNE

# SAFETY DATA SHEET

According to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

*1.1. Product identifier*

*Product name:* **CLARIFLOC™ WE-1731**

*Type of product:* Mixture.

*1.2. Relevant identified uses of the substance or mixture and uses advised against*

*Identified uses:* Processing aid for industrial applications.

*Uses advised against:* None.

*1.3. Details of the supplier of the safety data sheet*

*Company:* Polydyne Inc.
1 Chemical Plant Road
PO BOX 279, Riceboro, GA 31323
United States

*Telephone:* 1-800-848-7659

*Telefax:* (912)-884-8770

*E-mail address:* -

*1.4. Emergency telephone number*

*24-hour emergency number:* 1-800-424-9300

## SECTION 2: Hazards identification

*2.1. Classification of the substance or mixture*

*Classification according to paragraph (d) of 29 CFR 1910.1200:*

Not classified.

*2.2. Label elements*

*Labelling according to paragraph (f) of 29 CFR 1910.1200:*



8-20-19 / 6Q-71

| | |
|---|---|
| *Hazard symbol(s):* | None. |
| *Signal word:* | None. |
| *Hazard statement(s):* | None. |
| *Precautionary statement(s):* | None. |

*2.3. Other hazards*

Spills produce extremely slippery surfaces.

## SECTION 3: Composition/Information on Ingredients

*3.1. Substances*
Not applicable, this product is a mixture.

*3.2. Mixtures*
This product is a mixture.

*Hazardous components*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Concentration/ -range:* | 20 - 45% |
| *CAS Number:* | 64742-47-8 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Asp. Tox. 1;H304 |

*Notes*
*Does not result in classification of the mixture if the kinematic viscosity is greater than 20.5 mm²/s measured at 40°C.*

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Concentration/ -range:* | < 3% |
| *CAS Number:* | 69011-36-5 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Acute Tox. 4;H302, Eye Dam. 1;H318 |

For explanation of abbreviations see section 16

## SECTION 4: First aid measures

*4.1. Description of first aid measures*

*Inhalation:*
Move to fresh air. No hazards which require special first aid measures.

*Skin contact:*
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

*Eye contact:*
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Alternatively, rinse immediately with Diphoterine ®. Get prompt medical attention.

*Ingestion:*
Rinse mouth with water. Do NOT induce vomiting. Call a physician or poison control centre immediately.

### *4.2. Most important symptoms and effects, both acute and delayed*

None under normal use.

### *4.3. Indication of any immediate medical attention and special treatment needed.*

None reasonably foreseeable.

*Other information:*
None.

## SECTION 5: Fire-fighting measures

### *5.1. Extinguishing media*

*Suitable extinguishing media:*
Water. Water spray. Foam. Carbon dioxide ($CO_2$). Dry powder.
Warning! Spills produce extremely slippery surfaces.

*Unsuitable extinguishing media:*
None.

### *5.2. Special hazards arising from the substance or mixture*

*Hazardous decomposition products:*
Carbon oxides (COx). Nitrogen oxides (NOx). Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

### *5.3. Advice for fire-fighters*

*Protective measures:*
Wear self-contained breathing apparatus and protective suit.

*Other information:*
Spills produce extremely slippery surfaces.

## SECTION 6: Accidental release measures

### *6.1. Personal precautions, protective equipment and emergency procedures*

*Personal precautions:*
Do not touch or walk through spilled material. Spills produce extremely slippery surfaces.

*Protective equipment:*
Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

*Emergency procedures:*
Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

*6.2. Environmental precautions*

As with all chemical products, do not flush into surface water.

*6.3. Methods and material for containment and cleaning up*

Small spills:
Do not flush with water. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large spills:
Do not flush with water. Dam up. Clean up promptly by scoop or vacuum.

Residues:
After cleaning, flush away traces with water.

*6.4. Reference to other sections*

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

## SECTION 7: Handling and storage

*7.1. Precautions for safe handling*

Avoid contact with skin and eyes. Renders surfaces extremely slippery when spilled. When using, do not eat, drink or smoke.

*7.2. Conditions for safe storage, including any incompatibilities*

Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material. Incompatible with oxidizing agents.

*7.3. Specific end use(s)*

This information is not available.

## SECTION 8: Exposure controls/personal protection

*8.1. Control parameters*

*Occupational exposure limits:*

*Distillates (petroleum), hydrotreated light*
*ACGIH:* 200 mg/m³ (8 hours)

*8.2. Exposure controls*

*Appropriate engineering controls:*

Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists.

*Individual protection measures, such as personal protective equipment:*

*a) Eye/face protection:*
Safety glasses with side-shields.

*b) Skin protection:*
*i) Hand protection:* PVC or other plastic material gloves.
*ii) Other:* Wear coveralls and/or chemical apron and rubber footwear where physical contact can occur.

*c) Respiratory protection:*
No personal respiratory protective equipment normally required.

*d) Additional advice:*
Wash hands before breaks and at the end of workday. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

*Environmental exposure controls:*

Do not allow uncontrolled discharge of product into the environment.

## SECTION 9: Physical and chemical properties

*9.1. Information on basic physical and chemical properties*

| | |
|---|---|
| *a) Appearance:* | Viscous liquid, Milky. |
| *b) Odour:* | Aliphatic. |
| *c) Odour Threshold:* | No data available. |
| *d) pH:* | 5.5 - 8.5 @ 5 g/L |
| *e) Melting point/freezing point:* | < 5°C |
| *f) Initial boiling point and boiling range:* | > 100°C |
| *g) Flash point:* | Does not flash. |
| *h) Evaporation rate:* | No data available. |
| *i) Flammability (solid, gas):* | Not applicable. |
| *j) Upper/lower flammability or explosive limits:* | Not expected to create explosive atmospheres. |

| | |
|---|---|
| *k) Vapour pressure:* | 2.3 kPa @ 20°C |
| *l) Vapour density:* | 0.804 g/litre @ 20°C |
| *m) Relative density:* | 1.0 - 1.2 |
| *n) Solubility(ies):* | Completely miscible. |
| *o) Partition coefficient:* | Not applicable. |
| *p) Autoignition temperature:* | No data available. |
| *q) Decomposition temperature:* | > 150°C |
| *r) Viscosity:* | > 20.5 mm²/s @ 40°C |
| *s) Explosive properties:* | Not expected to be explosive based on the chemical structure. |
| *t) Oxidizing properties:* | Not expected to be oxidising based on the chemical structure. |

*9.2. Other information*

None.

## SECTION 10: Stability and reactivity

*10.1. Reactivity*

Stable under recommended storage conditions.

*10.2. Chemical stability*

Stable under recommended storage conditions.

*10.3. Possibility of hazardous reactions*

None known.

*10.4. Conditions to avoid*

Protect from frost, heat and sunlight.

*10.5. Incompatible materials*

Incompatible with oxidizing agents.

*10.6. Hazardous decomposition products*

Thermal decomposition may produce: nitrogen oxides (NOx), carbon oxides (COx). Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

## SECTION 11: Toxicological information

*11.1. Information on toxicological effects*

*Information on the product as supplied:*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (Estimated) |
| *Acute dermal toxicity:* | LD50/dermal/rat > 5000 mg/kg. (Estimated) |
| *Acute inhalation toxicity:* | The product is not expected to be toxic by inhalation. |
| *Skin corrosion/irritation:* | Non-irritating to skin. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 437) |
| *Respiratory/skin sensitisation:* | Not sensitizing. |
| *Mutagenicity:* | Not mutagenic. |
| *Carcinogenicity:* | Not carcinogenic. |
| *Reproductive toxicity:* | Not toxic for reproduction. |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | No known effect. |
| *Aspiration hazard:* | Due to the viscosity, this product does not present an aspiration hazard. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (OECD 401) |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 5000 mg/kg. (OECD 402) |
| *Acute inhalation toxicity:* | LC0/inhalation/4 hours/rat >= 4951 mg/m³ (OECD 403) (Based on results obtained from tests on analogous products) |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404)<br>Repeated exposure may cause skin dryness or cracking. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 405) |
| *Respiratory/skin sensitisation:* | By analogy with similar products, this product is not expected to be sensitizing. (OECD 406) |
| *Mutagenicity:* | Not mutagenic. (OECD 471, 473, 474, 476, 478, 479) |
| *Carcinogenicity:* | Carcinogenicity study in rats (OECD 451): Negative. |

| | |
|---|---|
| *Reproductive toxicity:* | By analogy with similar substances, this substance is not expected to be toxic for reproduction. NOAEL/rat = 300 ppm. (OECD 421) |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/90 days >= 3000 mg/kg/day (OECD 408) (Based on results obtained from tests on analogous products) |
| *Aspiration hazard:* | May be fatal if swallowed and enters airways. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat = 500 - 2000 mg/kg |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 2000 mg/kg. |
| *Acute inhalation toxicity:* | No data available. |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404) |
| *Serious eye damage/eye irritation:* | Causes serious eye irritation. (OECD 405) |
| *Respiratory/skin sensitisation:* | The results of testing on guinea pigs showed this material to be non-sensitizing. |
| *Mutagenicity:* | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. |
| *Carcinogenicity:* | Based on the absence of mutagenicity, it is unlikely that the substance is carcinogenic. |
| *Reproductive toxicity:* | Two-Generation Reproduction Toxicity (OECD 416)<br>- NOAEL/rat > 250 mg/kg/day<br>Prenatal Development Toxicity Study (OECD 414)<br>- NOAEL/Maternal toxicity/rat > 50 mg/kg/day<br>- NOAEL/Developmental toxicity/rat > 50 mg/kg/day |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/600 days = 50 mg/kg/day |
| *Aspiration hazard:* | No known effects. |

## SECTION 12: Ecological information

### *12.1. Toxicity*

*Information on the product as supplied:*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Oncorhynchus mykiss/96 hours > 100 mg/L. (Estimated) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia magna/48 hours > 100 mg/L. (Estimated) |

| | |
|---|---|
| *Acute toxicity to algae:* | IC50/Algae/72 hours > 100 mg/L (Estimated) |
| *Chronic toxicity to fish:* | No data available. |
| *Chronic toxicity to invertebrates:* | No data available. |
| *Toxicity to microorganisms:* | No data available. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute toxicity to fish:* | LC0/Oncorhynchus mykiss/96 hours > 1000 mg/L. (OECD 203) |
| *Acute toxicity to invertebrates:* | EC0/Daphnia magna/48 hours > 1000 mg/L. (OECD 202) |
| *Acute toxicity to algae:* | IC0/Pseudokirchneriella subcapitata/72 hours > 1000 mg/L. (OECD 201) |
| *Chronic toxicity to fish:* | NOEC/Oncorhynchus mykiss/28 days > 1000 mg/L |
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1000 mg/L |
| *Toxicity to microorganisms:* | EC50/Tetrahymena pyriformis/ 48h > 1000 mg/L. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. Readily biodegradable, exposure to sediment is unlikely. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Cyprinus carpio/96 hours = 1 - 10 mg/L (OECD 203) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia/48 hours = 1 - 10 mg/L (OECD 202) |
| *Acute toxicity to algae:* | IC50/Desmodesmus subspicatus/72 hours = 1 - 10 mg/L (OECD 201) |
| *Chronic toxicity to fish:* | No data available. |
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1 mg/L (OECD 202) |
| *Toxicity to microorganisms:* | EC10/activated sludge/17 hours > 10000 mg/L (DIN 38412-8) |
| *Effects on terrestrial organisms:* | No data available. |

*Sediment toxicity:* No data available.

*12.2. Persistence and degradability*

*Information on the product as supplied:*

*Degradation:* Not readily biodegradable.

*Hydrolysis:* Does not hydrolyse.

*Photolysis:* No data available.

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Degradation:* Readily biodegradable. 67.6% / 28 days (OECD 301 F) ; 68.8% / 28 days (OECD 306) ; 61.2% / 61 days (OECD 304 A)

*Hydrolysis:* Does not hydrolyse.

*Photolysis:* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Degradation:* Readily biodegradable. > 60% / 28 days (OECD 301 B)

*Hydrolysis:* Does not hydrolyse.

*Photolysis:* No data available.

*12.3. Bioaccumulative potential*

*Information on the product as supplied:*

The product is not expected to bioaccumulate.

*Partition co-efficient (Log Pow):* Not applicable.

*Bioconcentration factor (BCF):* No data available.

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Partition co-efficient (Log Pow):* 3 - 6

*Bioconcentration factor (BCF):* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Partition co-efficient (Log Pow):* > 3

*Bioconcentration factor (BCF):* No data available.

### 12.4. Mobility in soil

*Information on the product as supplied:*

No data available.

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Koc:* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Koc:* > 5000

### 12.5. Other adverse effects

None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

*Waste from residues/unused products:*

Dispose in accordance with local and national regulations.

*Contaminated packaging:*

Rinse empty containers with water and use the rinse-water to prepare the working solution. If recycling is not practicable, dispose of in compliance with local regulations. Can be landfilled or incinerated, when in compliance with local regulations.

*Recycling:*

In accordance with local and national regulations.

## SECTION 14: Transport information

### Land transport (DOT)

Not classified.

*Sea transport (IMDG)*

Not classified.

*Air transport (IATA)*

Not classified.

## SECTION 15: Regulatory information

*15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture*

*Information on the product as supplied:*

*TSCA Chemical Substances Inventory:*

All components of this product are either listed on the inventory or are exempt from listing.

*US SARA Reporting Requirements:*

*SARA (Section 311/312) hazard class:*
Not concerned.

*SARA Title III Sections:*

*Section 302 (TPQ) - Reportable Quantity:*
Not concerned.

*Section 304 - Reportable Quantity:*
Not concerned.

*Section 313 (De minimis concentration):*
Not concerned.

*Clean Water Act*

*Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:*
Not concerned.

*Clean Air Act*

*Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:*
Not concerned.

*CERCLA*

*Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:*
Not concerned.

*RCRA status :*

Not RCRA hazardous.

*California Proposition 65 Information:*

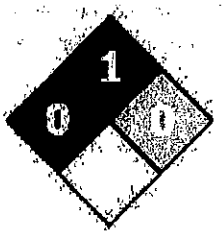
WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Acrylamide

## SECTION 16: Other Information

*NFPA and HMIS Ratings:*

*NFPA:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Instability: | 0 |




*HMIS:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Physical Hazard: | 0 |
| PPE Code: | B |

*This data sheet contains changes from the previous version in section(s):*

SECTION 6. Accidental release measures, SECTION 8. Exposure controls/personal protection, SECTION 15. Regulatory information, SECTION 16. Other Information.

*Key or legend to abbreviations and acronyms used in the safety data sheet:*

*Acronyms*
STOT = Specific target organ toxicity

*Abbreviations*
Acute Tox. 4 = Acute toxicity Category Code 4
Asp. Tox. 1 = Aspiration hazard Category Code 1
Eye Dam 1 = Serious eye damage/eye irritation Category Code 1

*Hazard statements*
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H318 - Causes serious eye damage

*Training advice:*

Do not handle until all safety precautions have been read and understood.

*This SDS was prepared in accordance with the following:*

U.S. Code of Federal Regulations 29 CFR 1910.1200

Version: 18.01.a

ENAC001A

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SNF POLYDYNE

# SAFETY DATA SHEET

According to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

*1.1. Product identifier*

*Product name:* **CLARIFLOC™ WE-1748**

*Type of product:* Mixture.

*1.2. Relevant identified uses of the substance or mixture and uses advised against*

*Identified uses:* Processing aid for industrial applications.

*Uses advised against:* None.

*1.3. Details of the supplier of the safety data sheet*

*Company:* Polydyne Inc.
1 Chemical Plant Road
PO BOX 279, Riceboro, GA 31323
United States

*Telephone:* 1-800-848-7659

*Telefax:* (912)-884-8770

*E-mail address:*

*1.4. Emergency telephone number*

*24-hour emergency number:* 1-800-424-9300

## SECTION 2: Hazards identification

*2.1. Classification of the substance or mixture*

*Classification according to paragraph (d) of 29 CFR 1910.1200:*

Not classified.

*2.2. Label elements*

*Labelling according to paragraph (f) of 29 CFR 1910.1200:*

| | |
|---|---|
| *Hazard symbol(s):* | None. |
| *Signal word:* | None. |
| *Hazard statement(s):* | None. |
| *Precautionary statement(s):* | None. |

*2.3. Other hazards*

Spills produce extremely slippery surfaces.

For explanation of abbreviations see Section 16.

## SECTION 3: Composition/Information on Ingredients

*3.1. Substances*
Not applicable, this product is a mixture.

*3.2. Mixtures*
This product is a mixture.

*Hazardous components*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Concentration/ -range:* | 20 - 30% |
| *CAS Number:* | 64742-47-8 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Asp. Tox. 1;H304 |

*Notes*
*Does not result in classification of the mixture if the kinematic viscosity is greater than 20.5 mm²/s measured at 40°C.*

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Concentration/ -range:* | < 5% |
| *CAS Number:* | 69011-36-5 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Acute Tox. 4;H302, Eye Dam. 1;H318 |

For explanation of abbreviations see section 16

## SECTION 4: First aid measures

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

*Inhalation:*
Move to fresh air. No hazards which require special first aid measures.

*Skin contact:*
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

*Eye contact:*
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

*Ingestion:*
Rinse mouth with water. Do NOT induce vomiting. Call a physician or poison control centre immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

None under normal use.

### 4.3. Indication of any immediate medical attention and special treatment needed.

None reasonably foreseeable.

*Other information:*
None.

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

*Suitable extinguishing media:*
Water. Water spray. Foam. Carbon dioxide (CO2). Dry powder.
Warning! Spills produce extremely slippery surfaces.

*Unsuitable extinguishing media:*
None.

### 5.2. Special hazards arising from the substance or mixture

*Hazardous decomposition products:*
Ammonia. Carbon oxides (COx). Nitrogen oxides (NOx). Hydrogen chloride. Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

### 5.3. Advice for fire-fighters

*Protective measures:*
Wear self-contained breathing apparatus and protective suit.

*Other information:*
Spills produce extremely slippery surfaces.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

*Personal precautions:*
Do not touch or walk through spilled material. Spills produce extremely slippery surfaces.

*Protective equipment:*
Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

*Emergency procedures:*
Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

### 6.2. Environmental precautions

As with all chemical products, do not flush into surface water.

### 6.3. Methods and material for containment and cleaning up

Small spills:
Do not flush with water. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large spills:
Do not flush with water. Dam up. Soak up with inert absorbent material. Clean up promptly by scoop or vacuum.

Residues:
After cleaning, flush away traces with water.

### 6.4. Reference to other sections

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid contact with skin and eyes. Renders surfaces extremely slippery when spilled. When using, do not eat, drink or smoke.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material. Incompatible with oxidizing agents.

### 7.3. Specific end use(s)

This information is not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

*Occupational exposure limits:*

*Distillates (petroleum), hydrotreated light*
*ACGIH:* 200 mg/m³ (8 hours)

*8.2. Exposure controls*

*Appropriate engineering controls:*

Ensure adequate ventilation, especially in confined areas. Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists.

*Individual protection measures, such as personal protective equipment:*

*a) Eye/face protection:*
Safety glasses with side-shields.

*b) Skin protection:*
*I) Hand protection:* PVC or other plastic material gloves.
*II) Other:* Wear coveralls and/or chemical apron and rubber footwear where physical contact can occur.

*c) Respiratory protection:*
No personal respiratory protective equipment normally required.

*d) Additional advice:*
Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.

*Environmental exposure controls:*

Do not allow uncontrolled discharge of product into the environment.

## SECTION 9: Physical and chemical properties

*9.1. Information on basic physical and chemical properties*

| | |
|---|---|
| *a) Appearance:* | Viscous liquid, Milky. |
| *b) Odour:* | Aliphatic. |
| *c) Odour Threshold:* | No data available. |
| *d) pH:* | 3.5 - 6.5 @ 5 g/L |
| *e) Melting point/freezing point:* | < 5°C |
| *f) Initial boiling point and boiling range:* | > 100°C |
| *g) Flash point:* | Does not flash. |
| *h) Evaporation rate:* | No data available. |

| | |
|---|---|
| *l) Flammability (solid, gas):* | Not applicable. |
| *j) Upper/lower flammability or explosive limits:* | Not expected to create explosive atmospheres. |
| *k) Vapour pressure:* | 2.3 kPa @ 20°C |
| *l) Vapour density:* | 0.804 g/litre @ 20°C |
| *m) Relative density:* | 1.0 - 1.2 |
| *n) Solubility(ies):* | Completely miscible. |
| *o) Partition coefficient:* | Not applicable. |
| *p) Autoignition temperature:* | Not applicable. |
| *q) Decomposition temperature:* | > 150°C |
| *r) Viscosity:* | > 20.5 $mm^2/s$ @ 40°C |
| *s) Explosive properties:* | Not expected to be explosive based on the chemical structure. |
| *t) Oxidizing properties:* | Not expected to be oxidising based on the chemical structure. |

*9.2. Other information*

None.

## SECTION 10: Stability and reactivity

*10.1. Reactivity*

Stable under recommended storage conditions.

*10.2. Chemical stability*

Stable under recommended storage conditions.

*10.3. Possibility of hazardous reactions*

Oxidizing agents may cause exothermic reactions.

*10.4. Conditions to avoid*

Protect from frost, heat and sunlight.

*10.5. Incompatible materials*

Oxidizing agents.

*10.6. Hazardous decomposition products*

Thermal decomposition may produce: hydrogen chloride gas, nitrogen oxides (NOx), carbon oxides (COx), Ammonia, Hydrogen cyanide (hydrocyanic acid).

SECTION 11: Toxicological information

*11.1. Information on toxicological effects*

*Information on the product as supplied:*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (Estimated) |
| *Acute dermal toxicity:* | LD50/dermal/rat > 5000 mg/kg. (Estimated) |
| *Acute inhalation toxicity:* | The product is not expected to be toxic by inhalation. |
| *Skin corrosion/irritation:* | Non-irritating to skin. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 437) |
| *Respiratory/skin sensitisation:* | Not sensitizing. |
| *Mutagenicity:* | Not mutagenic. |
| *Carcinogenicity:* | Not carcinogenic. |
| *Reproductive toxicity:* | Not toxic for reproduction. |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | No known effect. |
| *Aspiration hazard:* | Due to the viscosity, this product does not present an aspiration hazard. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (OECD 401) |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 5000 mg/kg. (OECD 402) |
| *Acute inhalation toxicity:* | LC0/inhalation/4 hours/rat >= 4951 mg/m³ (OECD 403) (Based on results obtained from tests on analogous products) |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404)<br>Repeated exposure may cause skin dryness or cracking. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 405) |
| *Respiratory/skin sensitisation:* | By analogy with similar products, this product is not expected to be sensitizing. (OECD 406) |
| *Mutagenicity:* | Not mutagenic. (OECD 471, 473, 474, 476, 478, 479) |

| | |
|---|---|
| *Carcinogenicity:* | Carcinogenicity study in rats (OECD 451): Negative. |
| *Reproductive toxicity:* | By analogy with similar substances, this substance is not expected to be toxic for reproduction. NOAEL/rat = 300 ppm. (OECD 421) |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/90 days >= 3000 mg/kg/day (OECD 408) (Based on results obtained from tests on analogous products) |
| *Aspiration hazard:* | May be fatal if swallowed and enters airways. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat = 500 - 2000 mg/kg |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 2000 mg/kg. |
| *Acute inhalation toxicity:* | No data available. |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404) |
| *Serious eye damage/eye irritation:* | Causes serious eye irritation. (OECD 405) |
| *Respiratory/skin sensitisation:* | The results of testing on guinea pigs showed this material to be non-sensitizing. |
| *Mutagenicity:* | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. |
| *Carcinogenicity:* | Based on the absence of mutagenicity, it is unlikely that the substance is carcinogenic. |
| *Reproductive toxicity:* | Two-Generation Reproduction Toxicity (OECD 416)<br>- NOAEL/rat > 250 mg/kg/day<br>Prenatal Development Toxicity Study (OECD 414)<br>- NOAEL/Maternal toxicity/rat > 50 mg/kg/day<br>- NOAEL/Developmental toxicity/rat > 50 mg/kg/day |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/600 days = 50 mg/kg/day |
| *Aspiration hazard:* | No known effects. |

## SECTION 12: Ecological Information

### *12.1. Toxicity*

*Information on the product as supplied:*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Fish/96 hours = 10 - 100 mg/L (Estimated) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia magna/48 hours = 10 - 100 mg/L. (Estimated) |
| *Acute toxicity to algae:* | Algal inhibition tests are not appropriate. The flocculation characteristics of the product interfere directly in the test medium preventing homogenous distribution which invalidates the test. |
| *Chronic toxicity to fish:* | No data available. |
| *Chronic toxicity to invertebrates:* | No data available. |
| *Toxicity to microorganisms:* | No data available. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute toxicity to fish:* | LC0/Oncorhynchus mykiss/96 hours > 1000 mg/L. (OECD 203) |
| *Acute toxicity to invertebrates:* | EC0/Daphnia magna/48 hours > 1000 mg/L. (OECD 202) |
| *Acute toxicity to algae:* | IC0/Pseudokirchneriella subcapitata/72 hours > 1000 mg/L. (OECD 201) |
| *Chronic toxicity to fish:* | NOEC/Oncorhynchus mykiss/28 days > 1000 mg/L |
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1000 mg/L |
| *Toxicity to microorganisms:* | EC50/Tetrahymena pyriformis/ 48h > 1000 mg/L. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. Readily biodegradable, exposure to sediment is unlikely. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Cyprinus carpio/96 hours = 1 - 10 mg/L (OECD 203) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia/48 hours = 1 - 10 mg/L (OECD 202) |
| *Acute toxicity to algae:* | IC50/Desmodesmus subspicatus/72 hours = 1 - 10 mg/L (OECD 201) |
| *Chronic toxicity to fish:* | No data available. |

| | |
|---|---|
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1 mg/L (OECD 202) |
| *Toxicity to microorganisms:* | EC10/activated sludge/17 hours > 10000 mg/L (DIN 38412-8) |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*12.2. Persistence and degradability*

*Information on the product as supplied:*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. |
| *Hydrolysis:* | At natural pHs (>6) the polymer degrades due to hydrolysis to more than 70% in 28 days. The hydrolysis products are not harmful to aquatic organisms. |
| *Photolysis:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. 67.6% / 28 days (OECD 301 F) ; 68.8% / 28 days (OECD 306) ; 61.2% / 61 days (OECD 304 A) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. > 60% / 28 days (OECD 301 B) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*12.3. Bioaccumulative potential*

*Information on the product as supplied:*

The product is not expected to bioaccumulate.

| | |
|---|---|
| *Partition co-efficient (Log Pow):* | Not applicable. |
| *Bioconcentration factor (BCF):* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Partition co-efficient (Log Pow):* 3 - 6

*Bioconcentration factor (BCF):* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Partition co-efficient (Log Pow):* > 3

*Bioconcentration factor (BCF):* No data available.

### 12.4. Mobility in soil

*Information on the product as supplied:*

No data available.

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Koc:* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Koc:* > 5000

### 12.5. Other adverse effects

None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

*Waste from residues/unused products:*

Dispose in accordance with local and national regulations.

*Contaminated packaging:*

Rinse empty containers with water and use the rinse-water to prepare the working solution. If recycling is not practicable, dispose of in compliance with local regulations. Can be landfilled or incinerated, when in compliance with local regulations.

*Recycling:*

Store containers and offer for recycling of material when in accordance with the local regulations.

## SECTION 14: Transport information

*Land transport (DOT)*

Not classified.

*Sea transport (IMDG)*

Not classified.

*Air transport (IATA)*

Not classified.

## SECTION 15: Regulatory information

*15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture*

*Information on the product as supplied:*

*TSCA Chemical Substances Inventory:*

All components of this product are either listed on the inventory or are exempt from listing.

*US SARA Reporting Requirements:*

*SARA (Section 311/312) hazard class:*
Not concerned.

*SARA Title III Sections:*

*Section 302 (TPQ) - Reportable Quantity:*
Not concerned.

*Section 304 - Reportable Quantity:*
Not concerned.

*Section 313 (De minimis concentration):*
Not concerned.

*Clean Water Act*

*Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:*
Not concerned.

*Clean Air Act*

*Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:*
Not concerned.

*CERCLA*

*Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:*
Not concerned.

*RCRA status :*

Not RCRA hazardous.

*California Proposition 65 Information:*

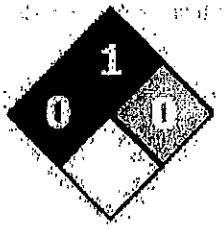
WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Acrylamide

## SECTION 16: Other Information

*NFPA and HMIS Ratings:*

*NFPA:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Instability: | 0 |




*HMIS:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Physical Hazard: | 0 |
| PPE Code: | B |

*This data sheet contains changes from the previous version in section(s):*

SECTION 8. Exposure controls/personal protection, SECTION 15. Regulatory information, SECTION 16. Other Information.

*Key or legend to abbreviations and acronyms used in the safety data sheet:*

*Acronyms*
STOT = Specific target organ toxicity

*Abbreviations*
Acute Tox. 4 = Acute toxicity Category Code 4
Asp. Tox. 1 = Aspiration hazard Category Code 1
Eye Dam 1 = Serious eye damage/eye irritation Category Code 1

*Hazard statements*
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H318 - Causes serious eye damage

*Training advice:*

Do not handle until all safety precautions have been read and understood.

*This SDS was prepared in accordance with the following:*

U.S. Code of Federal Regulations 29 CFR 1910.1200

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Version: 17.01.a

ENCC046

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



8-20-19 / 6Q-98

SNF POLYDYNE

# SAFETY DATA SHEET

According to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

*1.1. Product identifier*

*Product name:* **CLARIFLOC™ C-2005**

*Type of product:* Mixture.

*1.2. Relevant identified uses of the substance or mixture and uses advised against*

*Identified uses:* Processing aid for industrial applications.

*Uses advised against:* None.

*1.3. Details of the supplier of the safety data sheet*

*Company:* Polydyne Inc.
1 Chemical Plant Road
PO BOX 279, Riceboro, GA 31323
United States

*Telephone:* 1-800-848-7659

*Telefax:* (912)-884-8770

*E-mail address:* -

*1.4. Emergency telephone number*

*24-hour emergency number:* 1-800-424-9300

## SECTION 2: Hazards Identification

*2.1. Classification of the substance or mixture*

*Classification according to paragraph (d) of 29 CFR 1910.1200:*

Met. Corr. 1;H290, Eye Dam. 1;H318

*2.2. Label elements*

*Labelling according to paragraph (f) of 29 CFR 1910.1200:*

*Hazard symbol(s):*

| | |
|---|---|
| *Signal word:* | Danger |
| *Hazard statement(s):* | H290 - May be corrosive to metals<br>H318 - Causes serious eye damage |
| *Precautionary statement(s):* | P234 - Keep only in original container<br>P390 - Absorb spillage to prevent material damage<br>P280 - Wear eye protection/ face protection<br>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing<br>P310 - Immediately call a POISON CENTER or doctor/ physician |

*2.3. Other hazards*

None.

For explanation of abbreviations see Section 16.

## SECTION 3: Composition/information on ingredients

*3.1. Substances*
Not applicable, this product is a mixture.

*3.2. Mixtures*
This product is a mixture.

*Hazardous components*

*Sulfuric acid, aluminum salt*

| | |
|---|---|
| *Concentration/ -range:* | 10 - 50% |
| *CAS Number:* | 10043-01-3 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Met. Corr. 1;H290, Eye Dam. 1;H318 |

*Notes*
*Classification Met. Corr. 1 only applies to aqueous solutions and depends on pH.*

For explanation of abbreviations see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

*Inhalation:*
Move to fresh air. No hazards which require special first aid measures.

*Skin contact:*
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

*Eye contact:*
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Alternatively, rinse immediately with Diphoterine ®. Get prompt medical attention.

*Ingestion:*
Rinse mouth with water. Do NOT induce vomiting. Get medical attention immediately if symptoms occur.

### 4.2. Most important symptoms and effects, both acute and delayed

Risk of serious damage to eyes.

### 4.3. Indication of any immediate medical attention and special treatment needed.

None under normal use.

*Other information:*
None.

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

*Suitable extinguishing media:*
Water. Water spray. Foam. Carbon dioxide (CO2). Dry powder.
Warning! Spills produce extremely slippery surfaces.

*Unsuitable extinguishing media:*
None.

### 5.2. Special hazards arising from the substance or mixture

*Hazardous decomposition products:*
Thermal decomposition may produce: nitrogen oxides (NOx), carbon oxides (COx), sulfur oxides (SOx). Hydrogen chloride. Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

### 5.3. Advice for fire-fighters

*Protective measures:*
Wear self-contained breathing apparatus and protective suit.

*Other information:*
Spills produce extremely slippery surfaces.

## SECTION 6: Accidental release measures

### *6.1. Personal precautions, protective equipment and emergency procedures*

*Personal precautions:*
Spills produce extremely slippery surfaces. Do not touch or walk through spilled material.

*Protective equipment:*
Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

*Emergency procedures:*
Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

### *6.2. Environmental precautions*

Do not contaminate water.

### *6.3. Methods and material for containment and cleaning up*

Small spills:
Do not flush with water. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large spills:
Do not flush with water. Dam up. Clean up promptly by scoop or vacuum.

Residues:
Soak up with inert absorbent material. After cleaning, flush away traces with water.

### *6.4. Reference to other sections*

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

## SECTION 7: Handling and storage

### *7.1. Precautions for safe handling*

When using, do not eat, drink or smoke. Avoid contact with skin and eyes.

### *7.2. Conditions for safe storage, including any incompatibilities*

Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material. Incompatible with strong bases and oxidizing agents.

### *7.3. Specific end use(s)*

None.

## SECTION 8: Exposure controls/personal protection

SECTION 8: Exposure controls/personal protection

*8.1. Control parameters*

*Occupational exposure limits:*

*Sulfuric acid, aluminum salt*
*OSHA:* 2 mg/m³ (8 hours)

*8.2. Exposure controls*

*Appropriate engineering controls:*

Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists.

*Individual protection measures, such as personal protective equipment:*

*a) Eye/face protection:*
Safety glasses with side-shields.

*b) Skin protection:*
*i) Hand protection:* Protective gloves.
*ii) Other:* Chemical resistant apron or protective suit if splashing or repeated contact with solution is likely.

*c) Respiratory protection:*
No personal respiratory protective equipment normally required.

*d) Additional advice:*
Handle in accordance with good industrial hygiene and safety practice.

*Environmental exposure controls:*

Do not flush into surface water. Do not allow uncontrolled discharge of product into the environment.

SECTION 9: Physical and chemical properties

*9.1. Information on basic physical and chemical properties*

| | |
|---|---|
| *a) Appearance:* | Clear to slightly yellow liquid. |
| *b) Odour:* | None. |
| *c) Odour Threshold:* | Not applicable. |
| *d) pH:* | 2 - 4 |
| *e) Melting point/freezing point:* | < 0°C |
| *f) Initial boiling point and boiling range:* | > 100°C |
| *g) Flash point:* | Does not flash. |
| *h) Evaporation rate:* | No data available. |

| | |
|---|---|
| *i) Flammability (solid, gas):* | Not applicable. |
| *j) Upper/lower flammability or explosive limits:* | Not expected to create explosive atmospheres. |
| *k) Vapour pressure:* | 2.3 kPa @ 20°C |
| *l) Vapour density:* | 0.804 g/litre @ 20°C |
| *m) Relative density:* | 1.2 - 1.4 |
| *n) Solubility(ies):* | Completely miscible. |
| *o) Partition coefficient:* | < 0 |
| *p) Autoignition temperature:* | Does not self-ignite (based on the chemical structure). |
| *q) Decomposition temperature:* | ≥ 150°C |
| *r) Viscosity:* | See Technical Bulletin. |
| *s) Explosive properties:* | Not expected to be explosive based on the chemical structure. |
| *t) Oxidizing properties:* | Not expected to be oxidising based on the chemical structure. |

*9.2. Other information*

None.

## SECTION 10: Stability and reactivity

*10.1. Reactivity*

Stable under recommended storage conditions.

*10.2. Chemical stability*

Stable under recommended storage conditions.

*10.3. Possibility of hazardous reactions*

May be corrosive to metals.

*10.4. Conditions to avoid*

Protect from frost, heat and sunlight.

*10.5. Incompatible materials*

Incompatible with strong bases and oxidizing agents. Metals.

*10.6. Hazardous decomposition products*

Thermal decomposition may produce: nitrogen oxides (NOx), carbon oxides (COx), sulfur oxides (SOx). Hydrogen chloride gas. Hydrogen cyanide (hydrocyanic acid).

## SECTION 11: Toxicological information

### *11.1. Information on toxicological effects*

*Information on the product as supplied:*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (Estimated) |
| *Acute dermal toxicity:* | LD50/dermal/rat > 5000 mg/kg. (Estimated) |
| *Acute inhalation toxicity:* | The product is not expected to be toxic by inhalation. |
| *Skin corrosion/irritation:* | Non-irritating to skin. |
| *Serious eye damage/eye irritation:* | Risk of serious damage to eyes. |
| *Respiratory/skin sensitisation:* | Not sensitizing to skin. No respiratory sensitization has been observed in the workplace. |
| *Mutagenicity:* | Not mutagenic. |
| *Carcinogenicity:* | Not carcinogenic. |
| *Reproductive toxicity:* | Not toxic for reproduction. |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | No known effect. |
| *Aspiration hazard:* | No hazards resulting from the material as supplied. |

*Relevant information on the hazardous components:*

*Sulfuric acid, aluminum salt*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (OECD 401) |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 5000 mg/kg. (OECD 402) |
| *Acute inhalation toxicity:* | LC50/inhalation/4 hours/rat > 5 mg/L (OECD 403) (Based on results obtained from tests on analogous products) |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404) |
| *Serious eye damage/eye irritation:* | Severely irritating to eyes. (OECD 405) |
| *Respiratory/skin sensitisation:* | Not sensitizing. (OECD 406) (Based on results obtained from tests on analogous products) |
| *Mutagenicity:* | Not mutagenic. (OECD 487) Negative in the Ames Test (OECD 471). Negative in the In vitro Mammalian Cell Gene Mutation Test (OECD 476). |
| *Carcinogenicity:* | Based on the absence of mutagenicity, it is unlikely that the substance is carcinogenic. |

| | |
|---|---|
| *Reproductive toxicity:* | Not toxic for reproduction. (OECD 422, 426, 452) (Based on results obtained from tests on analogous products) |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/28 days > 1000 mg/kg/day (OECD 422) (Based on results obtained from tests on analogous products) |
| *Aspiration hazard:* | No known effects. |

## SECTION 12: Ecological Information

### *12.1. Toxicity*

*Information on the product as supplied:*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Danio rerio/96 hours > 100 mg/L (Estimated) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia magna/48 hours > 100 mg/L. (Estimated) |
| *Acute toxicity to algae:* | Algal inhibition tests are not appropriate. The flocculation characteristics of the product interfere directly in the test medium preventing homogenous distribution which invalidates the test. |
| *Chronic toxicity to fish:* | No data available. |
| *Chronic toxicity to invertebrates:* | No data available. |
| *Toxicity to microorganisms:* | No data available. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*Relevant information on the hazardous components:*

*Sulfuric acid, aluminum salt*

| | |
|---|---|
| *Acute toxicity to fish:* | NOEC/Danio rerio/96 hours >= 1000 mg/L (OECD 203) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia magna/48 hours > 200 mg/L. (OECD 202) |
| *Acute toxicity to algae:* | IC50/Pseudokirchneriella subcapitata/72 hours = 14 mg/L. (OECD 201) |
| *Chronic toxicity to fish:* | LC50/Fish/42 days = 0.015 mg/L |
| *Chronic toxicity to invertebrates:* | NOEC/Ceriodaphnia Dubia/8 days = 3.8 mg/L (EPA-600/4-89/001) |
| *Toxicity to microorganisms:* | EC50/activated sludge/3 hours > 1000 mg/L (OECD 209) |

*Effects on terrestrial organisms:* No data available.

*Sediment toxicity:* No data available.

*12.2. Persistence and degradability*

*Information on the product as supplied:*

*Degradation:* Not readily biodegradable.

*Hydrolysis:* Does not hydrolyse.

*Photolysis:* No data available.

*Relevant information on the hazardous components:*

*Sulfuric acid, aluminum salt*

*Degradation:* Not relevant (inorganic).

*Hydrolysis:* Does not hydrolyse.

*Photolysis:* No data available.

*12.3. Bioaccumulative potential*

*Information on the product as supplied:*

The product is not expected to bioaccumulate.

*Partition co-efficient (Log Pow):* < 0

*Bioconcentration factor (BCF):* No data available.

*Relevant information on the hazardous components:*

*Sulfuric acid, aluminum salt*

*Partition co-efficient (Log Pow):* Not applicable.

*Bioconcentration factor (BCF):* No data available.

*12.4. Mobility in soil*

*Information on the product as supplied:*

No data available.

*Relevant information on the hazardous components:*

*Sulfuric acid, aluminum salt*

*Koc:* No data available.

*12.5. Other adverse effects*

None.

SECTION 13: Disposal considerations

*13.1. Waste treatment methods*

*Waste from residues/unused products:*

Dispose in accordance with local and national regulations.

*Contaminated packaging:*

Rinse empty containers with water and use the rinse-water to prepare the working solution. If recycling is not practicable, dispose of in compliance with local regulations.

*Recycling:*

Store containers and offer for recycling of material when in accordance with the local regulations.

SECTION 14: Transport information

*Land transport (DOT)*

| | |
|---|---|
| *14.1 UN number* | UN 3264 |
| *14.2 UN proper shipping name* | Corrosive liquid, acidic, inorganic, n.o.s. (Contains: Aluminium sulphate) |
| *14.3 Transport hazard class(es)* | 8 |
| *14.4 Packing group* | III |
| *14.5 Environmental hazards* | None. |
| *14.6 Special precautions for user* | May be corrosive to metals. |

*Sea transport (IMDG)*

| | |
|---|---|
| *14.1 UN number* | UN 3264 |
| *14.2 UN proper shipping name* | Corrosive liquid, acidic, inorganic, n.o.s. (Contains: Aluminium sulphate) |
| *14.3 Transport hazard class(es)* | 8 |
| *14.4 Packing group* | III |

| | |
|---|---|
| *14.5 Environmental hazards* | None. |
| *Marine pollutant* | No |
| *14.6 Special precautions for user* | May be corrosive to metals. |
| *EmS* | F-A, S-B |
| ***Air transport (IATA)*** | |
| *14.1 UN number* | UN 3264 |
| *14.2 UN proper shipping name* | Corrosive liquid, acidic, inorganic, n.o.s. (Contains: Aluminium sulphate) |
| *14.3 Transport hazard class(es)* | 8 |
| *14.4 Packing group* | III |
| *14.5 Environmental hazards* | None. |
| *14.6 Special precautions for user* | May be corrosive to metals. |

## SECTION 15: Regulatory Information

***15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture***

*Information on the product as supplied:*

*TSCA Chemical Substances Inventory:*

All components of this product are either listed on the inventory or are exempt from listing.

*US SARA Reporting Requirements:*

*SARA (Section 311/312) hazard class:*
Acute.

*SARA Title III Sections:*

*Section 302 (TPQ) - Reportable Quantity:*
Not concerned.

*Section 304 - Reportable Quantity:*
Not concerned.

*Section 313 (De minimis concentration):*
Not concerned.

*Clean Water Act*

*Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:*
Contains one or more of the listed substances.

*Clean Air Act*

*Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:*
Not concerned.

*CERCLA*

*Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:*
Contains one or more of the listed substances.

*RCRA status :*

Not RCRA hazardous.

*California Proposition 65 Information:*

Not concerned.

*Relevant information on the hazardous components:*

*Sulfuric acid, aluminum salt*

*Clean Water Act*
*Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:* 5000 lbs

*CERCLA*
*Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:* 5000 lbs

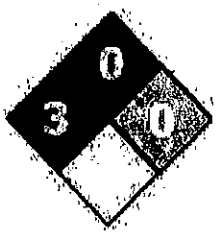
*DOT RQ (lbs):* 5000 lbs

## SECTION 16: Other information

*NFPA and HMIS Ratings:*

*NFPA:*

| | |
|---|---|
| Health: | 3 |
| Flammability: | 0 |
| Instability: | 0 |



*HMIS:*

| | |
|---|---|
| Health: | 3 |
| Flammability: | 0 |
| Physical Hazard: | 1 |
| PPE Code: | C |

*This data sheet contains changes from the previous version in section(s):*

SECTION 8. Exposure controls/personal protection, SECTION 15. Regulatory information, SECTION 16. Other Information.

*Key or legend to abbreviations and acronyms used in the safety data sheet:*

*Acronyms*
STOT = Specific target organ toxicity

*Abbreviations*
Eye Dam 1 = Serious eye damage/eye irritation Category Code 1
Met. Corr. 1 = Substance or mixture corrosive to metals Category Code 1

*Hazard statements*
H290 - May be corrosive to metals
H318 - Causes serious eye damage

*Training advice:*

Do not handle until all safety precautions have been read and understood.

*This SDS was prepared in accordance with the following:*

U.S. Code of Federal Regulations 29 CFR 1910.1200

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Version: 17.01.a

LDMS035B

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SNF POLYDYNE

# SAFETY DATA SHEET

According to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

*1.1. Product identifier*

*Product name:* **CLARIFLOC™ WE-1460**

*Type of product:* Mixture.

*1.2. Relevant identified uses of the substance or mixture and uses advised against*

*Identified uses:* Processing aid for industrial applications.

*Uses advised against:* None.

*1.3. Details of the supplier of the safety data sheet*

*Company:* Polydyne Inc.
1 Chemical Plant Road
PO BOX 279, Riceboro, GA 31323
United States

*Telephone:* 1-800-848-7659

*Telefax:* (912)-884-8770

*E-mail address:*

*1.4. Emergency telephone number*

*24-hour emergency number:* 1-800-424-9300

## SECTION 2: Hazards identification

*2.1. Classification of the substance or mixture*

*Classification according to paragraph (d) of 29 CFR 1910.1200:*

Not classified.

*2.2. Label elements*

*Labelling according to paragraph (f) of 29 CFR 1910.1200:*

| | |
|---|---|
| *Hazard symbol(s):* | None. |
| *Signal word:* | None. |
| *Hazard statement(s):* | None. |
| *Precautionary statement(s):* | None. |

*2.3. Other hazards*

Spills produce extremely slippery surfaces.

For explanation of abbreviations see Section 16.

## SECTION 3: Composition/information on ingredients

*3.1. Substances*
Not applicable, this product is a mixture.

*3.2. Mixtures*
This product is a mixture.

*Hazardous components*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Concentration/ -range:* | 20 - 30% |
| *CAS Number:* | 64742-47-8 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Asp. Tox. 1;H304 |

*Notes*
*Does not result in classification of the mixture if the kinematic viscosity is greater than 20.5 mm²/s measured at 40°C.*

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Concentration/ -range:* | < 5% |
| *CAS Number:* | 69011-36-5 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Acute Tox. 4;H302, Eye Dam. 1;H318 |

For explanation of abbreviations see section 16

## SECTION 4: First aid measures

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

*Inhalation:*
Move to fresh air. No hazards which require special first aid measures.

*Skin contact:*
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

*Eye contact:*
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

*Ingestion:*
Rinse mouth with water. Do NOT induce vomiting. Call a physician or poison control centre immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

None under normal use.

### 4.3. Indication of any immediate medical attention and special treatment needed.

None reasonably foreseeable.

*Other information:*
None.

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

*Suitable extinguishing media:*
Water. Water spray. Foam. Carbon dioxide ($CO_2$). Dry powder.
Warning! Spills produce extremely slippery surfaces.

*Unsuitable extinguishing media:*
None.

### 5.2. Special hazards arising from the substance or mixture

*Hazardous decomposition products:*
Ammonia. Carbon oxides (COx). Nitrogen oxides (NOx). Hydrogen chloride. Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

### 5.3. Advice for fire-fighters

*Protective measures:*
Wear self-contained breathing apparatus and protective suit.

*Other information:*
Spills produce extremely slippery surfaces.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

*Personal precautions:*
Do not touch or walk through spilled material. Spills produce extremely slippery surfaces.

*Protective equipment:*
Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

*Emergency procedures:*
Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

### 6.2. Environmental precautions

As with all chemical products, do not flush into surface water.

### 6.3. Methods and material for containment and cleaning up

Small spills:
Do not flush with water.Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large spills:
Do not flush with water.Dam up. Soak up with inert absorbent material. Clean up promptly by scoop or vacuum.

Residues:
After cleaning, flush away traces with water.

### 6.4. Reference to other sections

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid contact with skin and eyes. Renders surfaces extremely slippery when spilled. When using, do not eat, drink or smoke.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material. Incompatible with oxidizing agents.

### 7.3. Specific end use(s)

This information is not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

*Occupational exposure limits:*

*Distillates (petroleum), hydrotreated light*
*ACGIH:* 200 mg/m³ (8 hours)

*8.2. Exposure controls*

*Appropriate engineering controls:*

Ensure adequate ventilation, especially in confined areas. Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists.

*Individual protection measures, such as personal protective equipment:*

*a) Eye/face protection:*
Safety glasses with side-shields.

*b) Skin protection:*
*I) Hand protection:* PVC or other plastic material gloves.
*II) Other:* Wear coveralls and/or chemical apron and rubber footwear where physical contact can occur.

*c) Respiratory protection:*
No personal respiratory protective equipment normally required.

*d) Additional advice:*
Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.

*Environmental exposure controls:*

Do not allow uncontrolled discharge of product into the environment.

## SECTION 9: Physical and chemical properties

*9.1. Information on basic physical and chemical properties*

| | |
|---|---|
| *a) Appearance:* | Viscous liquid, Milky. |
| *b) Odour:* | Aliphatic. |
| *c) Odour Threshold:* | No data available. |
| *d) pH:* | 3.5 - 6.5 @ 5 g/L |
| *e) Melting point/freezing point:* | < 5°C |
| *f) Initial boiling point and boiling range:* | > 100°C |
| *g) Flash point:* | Does not flash. |
| *h) Evaporation rate:* | No data available. |

| | |
|---|---|
| *i) Flammability (solid, gas):* | Not applicable. |
| *j) Upper/lower flammability or explosive limits:* | Not expected to create explosive atmospheres. |
| *k) Vapour pressure:* | 2.3 kPa @ 20°C |
| *l) Vapour density:* | 0.804 g/litre @ 20°C |
| *m) Relative density:* | 1.0 - 1.2 |
| *n) Solubility(ies):* | Completely miscible. |
| *o) Partition coefficient:* | Not applicable. |
| *p) Autoignition temperature:* | Not applicable. |
| *q) Decomposition temperature:* | > 150°C |
| *r) Viscosity:* | > 20.5 mm²/s @ 40°C |
| *s) Explosive properties:* | Not expected to be explosive based on the chemical structure. |
| *t) Oxidizing properties:* | Not expected to be oxidising based on the chemical structure. |

*9.2. Other information*

None.

## SECTION 10: Stability and reactivity

*10.1. Reactivity*

Stable under recommended storage conditions.

*10.2. Chemical stability*

Stable under recommended storage conditions.

*10.3. Possibility of hazardous reactions*

Oxidizing agents may cause exothermic reactions.

*10.4. Conditions to avoid*

Protect from frost, heat and sunlight.

*10.5. Incompatible materials*

Oxidizing agents.

*10.6. Hazardous decomposition products*

Thermal decomposition may produce: hydrogen chloride gas, nitrogen oxides (NOx), carbon oxides (COx). Ammonia. Hydrogen cyanide (hydrocyanic acid).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

*Information on the product as supplied:*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (Estimated) |
| *Acute dermal toxicity:* | LD50/dermal/rat > 5000 mg/kg. (Estimated) |
| *Acute inhalation toxicity:* | The product is not expected to be toxic by inhalation. |
| *Skin corrosion/irritation:* | Non-irritating to skin. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 437) |
| *Respiratory/skin sensitisation:* | Not sensitizing. |
| *Mutagenicity:* | Not mutagenic. |
| *Carcinogenicity:* | Not carcinogenic. |
| *Reproductive toxicity:* | Not toxic for reproduction. |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | No known effect. |
| *Aspiration hazard:* | Due to the viscosity, this product does not present an aspiration hazard. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (OECD 401) |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 5000 mg/kg. (OECD 402) |
| *Acute inhalation toxicity:* | LC0/inhalation/4 hours/rat >= 4951 mg/m³ (OECD 403) (Based on results obtained from tests on analogous products) |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404)<br>Repeated exposure may cause skin dryness or cracking. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 405) |
| *Respiratory/skin sensitisation:* | By analogy with similar products, this product is not expected to be sensitizing. (OECD 406) |
| *Mutagenicity:* | Not mutagenic. (OECD 471, 473, 474, 476, 478, 479) |

| | |
|---|---|
| *Carcinogenicity:* | Carcinogenicity study in rats (OECD 451): Negative. |
| *Reproductive toxicity:* | By analogy with similar substances, this substance is not expected to be toxic for reproduction. NOAEL/rat = 300 ppm. (OECD 421) |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/90 days >= 3000 mg/kg/day (OECD 408) (Based on results obtained from tests on analogous products) |
| *Aspiration hazard:* | May be fatal if swallowed and enters airways. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat = 500 - 2000 mg/kg |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 2000 mg/kg. |
| *Acute inhalation toxicity:* | No data available. |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404) |
| *Serious eye damage/eye irritation:* | Causes serious eye irritation. (OECD 405) |
| *Respiratory/skin sensitisation:* | The results of testing on guinea pigs showed this material to be non-sensitizing. |
| *Mutagenicity:* | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. |
| *Carcinogenicity:* | Based on the absence of mutagenicity, it is unlikely that the substance is carcinogenic. |
| *Reproductive toxicity:* | Two-Generation Reproduction Toxicity (OECD 416)<br>- NOAEL/rat > 250 mg/kg/day<br>Prenatal Development Toxicity Study (OECD 414)<br>- NOAEL/Maternal toxicity/rat > 50 mg/kg/day<br>- NOAEL/Developmental toxicity/rat > 50 mg/kg/day |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/600 days = 50 mg/kg/day |
| *Aspiration hazard:* | No known effects. |

## SECTION 12: Ecological Information

### *12.1. Toxicity*

*Information on the product as supplied:*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Fish/96 hours = 10 - 100 mg/L (Estimated) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia magna/48 hours = 10 - 100 mg/L. (Estimated) |
| *Acute toxicity to algae:* | Algal inhibition tests are not appropriate. The flocculation characteristics of the product interfere directly in the test medium preventing homogenous distribution which invalidates the test. |
| *Chronic toxicity to fish:* | No data available. |
| *Chronic toxicity to invertebrates:* | No data available. |
| *Toxicity to microorganisms:* | No data available. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute toxicity to fish:* | LC0/Oncorhynchus mykiss/96 hours ≥ 1000 mg/L. (OECD 203) |
| *Acute toxicity to invertebrates:* | EC0/Daphnia magna/48 hours > 1000 mg/L. (OECD 202) |
| *Acute toxicity to algae:* | IC0/Pseudokirchneriella subcapitata/72 hours > 1000 mg/L. (OECD 201) |
| *Chronic toxicity to fish:* | NOEC/Oncorhynchus mykiss/28 days ≥ 1000 mg/L |
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1000 mg/L |
| *Toxicity to microorganisms:* | EC50/Tetrahymena pyriformis/ 48h > 1000 mg/L. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. Readily biodegradable, exposure to sediment is unlikely. |

*Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Cyprinus carpio/96 hours = 1 - 10 mg/L (OECD 203) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia/48 hours = 1 - 10 mg/L (OECD 202) |
| *Acute toxicity to algae:* | IC50/Desmodesmus subspicatus/72 hours = 1 - 10 mg/L (OECD 201) |
| *Chronic toxicity to fish:* | No data available. |

| | |
|---|---|
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1 mg/L (OECD 202) |
| *Toxicity to microorganisms:* | EC10/activated sludge/17 hours > 10000 mg/L (DIN 38412-8) |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*12.2. Persistence and degradability*

*Information on the product as supplied:*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. |
| *Hydrolysis:* | At natural pHs (>6) the polymer degrades due to hydrolysis to more than 70% in 28 days. The hydrolysis products are not harmful to aquatic organisms. |
| *Photolysis:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. 67.6% / 28 days (OECD 301 F) ; 68.8% / 28 days (OECD 306) ; 61.2% / 61 days (OECD 304 A) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. > 60% / 28 days (OECD 301 B) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*12.3. Bioaccumulative potential*

*Information on the product as supplied:*

The product is not expected to bioaccumulate.

| | |
|---|---|
| *Partition co-efficient (Log Pow):* | Not applicable. |
| *Bioconcentration factor (BCF):* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Partition co-efficient (Log Pow):* 3 - 6

*Bioconcentration factor (BCF):* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Partition co-efficient (Log Pow):* > 3

*Bioconcentration factor (BCF):* No data available.

### 12.4. Mobility in soil

*Information on the product as supplied:*

No data available.

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Koc:* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Koc:* > 5000

### 12.5. Other adverse effects

None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

*Waste from residues/unused products:*

Dispose in accordance with local and national regulations.

*Contaminated packaging:*

Rinse empty containers with water and use the rinse-water to prepare the working solution. If recycling is not practicable, dispose of in compliance with local regulations. Can be landfilled or incinerated, when in compliance with local regulations.

*Recycling:*

Store containers and offer for recycling of material when in accordance with the local regulations.

## SECTION 14: Transport information

*Land transport (DOT)*

Not classified.

*Sea transport (IMDG)*

Not classified.

*Air transport (IATA)*

Not classified.

## SECTION 15: Regulatory information

*15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture*

*Information on the product as supplied:*

*TSCA Chemical Substances Inventory:*

All components of this product are either listed on the inventory or are exempt from listing.

*US SARA Reporting Requirements:*

*SARA (Section 311/312) hazard class:*
Not concerned.

*SARA Title III Sections:*

*Section 302 (TPQ) - Reportable Quantity:*
Not concerned.

*Section 304 - Reportable Quantity:*
Not concerned.

*Section 313 (De minimis concentration):*
Not concerned.

*Clean Water Act*

*Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:*
Not concerned.

*Clean Air Act*

*Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:*
Not concerned.

*CERCLA*

*Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:*
Not concerned.

*RCRA status :*

Not RCRA hazardous.

*California Proposition 65 Information:*

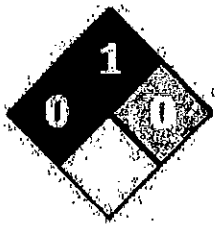
WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Acrylamide

## SECTION 16: Other Information

*NFPA and HMIS Ratings:*

*NFPA:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Instability: | 0 |




*HMIS:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Physical Hazard: | 0 |
| PPE Code: | B |

*This data sheet contains changes from the previous version in section(s):*

SECTION 8. Exposure controls/personal protection, SECTION 15. Regulatory information, SECTION 16. Other Information.

*Key or legend to abbreviations and acronyms used in the safety data sheet:*

*Acronyms*
STOT = Specific target organ toxicity

*Abbreviations*
Acute Tox. 4 = Acute toxicity Category Code 4
Asp. Tox. 1 = Aspiration hazard Category Code 1
Eye Dam 1 = Serious eye damage/eye irritation Category Code 1

*Hazard statements*
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H318 - Causes serious eye damage

*Training advice:*

Do not handle until all safety precautions have been read and understood.

*This SDS was prepared in accordance with the following:*

U.S. Code of Federal Regulations 29 CFR 1910.1200

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Version: 17.01.a

ENCC046

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SNF POLYDYNE

# SAFETY DATA SHEET

According to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

*1.1. Product identifier*

*Product name:* **CLARIFLOC™ C-6258**

*Type of product:* Mixture.

*1.2. Relevant identified uses of the substance or mixture and uses advised against*

*Identified uses:* Processing aid for industrial applications.

*Uses advised against:* None.

*1.3. Details of the supplier of the safety data sheet*

*Company:* Polydyne Inc.
1 Chemical Plant Road
PO BOX 279, Riceboro, GA 31323
United States

*Telephone:* 1-800-848-7659

*Telefax:* (912)-884-8770

*E-mail address:* -

*1.4. Emergency telephone number*

*24-hour emergency number:* 1-800-424-9300

## SECTION 2: Hazards identification

*2.1. Classification of the substance or mixture*

*Classification according to paragraph (d) of 29 CFR 1910.1200:*

Not classified.

*2.2. Label elements*

*Labelling according to paragraph (f) of 29 CFR 1910.1200:*

| | |
|---|---|
| *Hazard symbol(s):* | None. |
| *Signal word:* | None. |
| *Hazard statement(s):* | None. |
| *Precautionary statement(s):* | None. |

*2.3. Other hazards*

Spills produce extremely slippery surfaces.

For explanation of abbreviations see Section 16.

## SECTION 3: Composition/information on ingredients

*3.1. Substances*
Not applicable, this product is a mixture.

*3.2. Mixtures*
This product is a mixture.

*Hazardous components*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Concentration/-range:* | 20 - 30% |
| *CAS Number:* | 64742-47-8 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Asp. Tox. 1;H304 |

*Notes*
*Does not result in classification of the mixture if the kinematic viscosity is greater than 20.5 mm²/s measured at 40°C.*

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Concentration/-range:* | < 5% |
| *CAS Number:* | 69011-36-5 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Acute Tox. 4;H302, Eye Dam. 1;H318 |

For explanation of abbreviations see section 16

## SECTION 4: First aid measures

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

*Inhalation:*
Move to fresh air. No hazards which require special first aid measures.

*Skin contact:*
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

*Eye contact:*
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

*Ingestion:*
Rinse mouth with water. Do NOT induce vomiting. Call a physician or poison control centre immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

None under normal use.

### 4.3. Indication of any immediate medical attention and special treatment needed.

None reasonably foreseeable.

*Other information:*
None.

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

*Suitable extinguishing media:*
Water. Water spray. Foam. Carbon dioxide (CO2). Dry powder.
Warning! Spills produce extremely slippery surfaces.

*Unsuitable extinguishing media:*
None.

### 5.2. Special hazards arising from the substance or mixture

*Hazardous decomposition products:*
Ammonia. Carbon oxides (COx). Nitrogen oxides (NOx). Hydrogen chloride. Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

### 5.3. Advice for fire-fighters

*Protective measures:*
Wear self-contained breathing apparatus and protective suit.

*Other information:*
Spills produce extremely slippery surfaces.

## SECTION 6: Accidental release measures

### *6.1. Personal precautions, protective equipment and emergency procedures*

*Personal precautions:*
Do not touch or walk through spilled material. Spills produce extremely slippery surfaces.

*Protective equipment:*
Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

*Emergency procedures:*
Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

### *6.2. Environmental precautions*

As with all chemical products, do not flush into surface water.

### *6.3. Methods and material for containment and cleaning up*

Small spills:
Do not flush with water.Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large spills:
Do not flush with water.Dam up. Soak up with inert absorbent material. Clean up promptly by scoop or vacuum.

Residues:
After cleaning, flush away traces with water.

### *6.4. Reference to other sections*

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

## SECTION 7: Handling and storage

### *7.1. Precautions for safe handling*

Avoid contact with skin and eyes. Renders surfaces extremely slippery when spilled. When using, do not eat, drink or smoke.

### *7.2. Conditions for safe storage, including any incompatibilities*

Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material. Incompatible with oxidizing agents.

### *7.3. Specific end use(s)*

This information is not available.

## SECTION 8: Exposure controls/personal protection

### *8.1. Control parameters*

*Occupational exposure limits:*

*Distillates (petroleum), hydrotreated light*
*ACGIH:* 200 mg/m³ (8 hours)

*8.2. Exposure controls*

*Appropriate engineering controls:*

Ensure adequate ventilation, especially in confined areas. Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists.

*Individual protection measures, such as personal protective equipment:*

*a) Eye/face protection:*
Safety glasses with side-shields.

*b) Skin protection:*
*i) Hand protection:* PVC or other plastic material gloves.
*ii) Other:* Wear coveralls and/or chemical apron and rubber footwear where physical contact can occur.

*c) Respiratory protection:*
No personal respiratory protective equipment normally required.

*d) Additional advice:*
Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.

*Environmental exposure controls:*

Do not allow uncontrolled discharge of product into the environment.

## SECTION 9: Physical and chemical properties

*9.1. Information on basic physical and chemical properties*

| | |
|---|---|
| *a) Appearance:* | Viscous liquid, Milky. |
| *b) Odour:* | Aliphatic. |
| *c) Odour Threshold:* | No data available. |
| *d) pH:* | 3.5 - 6.5 @ 5 g/L |
| *e) Melting point/freezing point:* | < 5°C |
| *f) Initial boiling point and boiling range:* | > 100°C |
| *g) Flash point:* | Does not flash. |
| *h) Evaporation rate:* | No data available. |

| | |
|---|---|
| *i) Flammability (solid, gas):* | Not applicable. |
| *j) Upper/lower flammability or explosive limits:* | Not expected to create explosive atmospheres. |
| *k) Vapour pressure:* | 2.3 kPa @ 20°C |
| *l) Vapour density:* | 0.804 g/litre @ 20°C |
| *m) Relative density:* | 1.0 - 1.2 |
| *n) Solubility(ies):* | Completely miscible. |
| *o) Partition coefficient:* | Not applicable. |
| *p) Autoignition temperature:* | Not applicable. |
| *q) Decomposition temperature:* | > 150°C |
| *r) Viscosity:* | > 20.5 mm²/s @ 40°C |
| *s) Explosive properties:* | Not expected to be explosive based on the chemical structure. |
| *t) Oxidizing properties:* | Not expected to be oxidising based on the chemical structure. |

*9.2. Other information*

None.

## SECTION 10: Stability and reactivity

*10.1. Reactivity*

Stable under recommended storage conditions.

*10.2. Chemical stability*

Stable under recommended storage conditions.

*10.3. Possibility of hazardous reactions*

Oxidizing agents may cause exothermic reactions.

*10.4. Conditions to avoid*

Protect from frost, heat and sunlight.

*10.5. Incompatible materials*

Oxidizing agents.

*10.6. Hazardous decomposition products*

Thermal decomposition may produce: hydrogen chloride gas, nitrogen oxides (NOx), carbon oxides (COx). Ammonia. Hydrogen cyanide (hydrocyanic acid).

## SECTION 11: Toxicological Information

### 11.1. Information on toxicological effects

*Information on the product as supplied:*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (Estimated) |
| *Acute dermal toxicity:* | LD50/dermal/rat > 5000 mg/kg. (Estimated) |
| *Acute inhalation toxicity:* | The product is not expected to be toxic by inhalation. |
| *Skin corrosion/irritation:* | Non-irritating to skin. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 437) |
| *Respiratory/skin sensitisation:* | Not sensitizing. |
| *Mutagenicity:* | Not mutagenic. |
| *Carcinogenicity:* | Not carcinogenic. |
| *Reproductive toxicity:* | Not toxic for reproduction. |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | No known effect. |
| *Aspiration hazard:* | Due to the viscosity, this product does not present an aspiration hazard. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (OECD 401) |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 5000 mg/kg. (OECD 402) |
| *Acute inhalation toxicity:* | LC0/inhalation/4 hours/rat >= 4951 mg/m³ (OECD 403) (Based on results obtained from tests on analogous products) |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404)<br>Repeated exposure may cause skin dryness or cracking. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 405) |
| *Respiratory/skin sensitisation:* | By analogy with similar products, this product is not expected to be sensitizing. (OECD 406) |
| *Mutagenicity:* | Not mutagenic. (OECD 471, 473, 474, 476, 478, 479) |

| | |
|---|---|
| *Carcinogenicity:* | Carcinogenicity study in rats (OECD 451): Negative. |
| *Reproductive toxicity:* | By analogy with similar substances, this substance is not expected to be toxic for reproduction. NOAEL/rat = 300 ppm. (OECD 421) |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/90 days >= 3000 mg/kg/day (OECD 408) (Based on results obtained from tests on analogous products) |
| *Aspiration hazard:* | May be fatal if swallowed and enters airways. |

*Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat = 500 - 2000 mg/kg |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 2000 mg/kg. |
| *Acute inhalation toxicity:* | No data available. |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404) |
| *Serious eye damage/eye irritation:* | Causes serious eye irritation. (OECD 405) |
| *Respiratory/skin sensitisation:* | The results of testing on guinea pigs showed this material to be non-sensitizing. |
| *Mutagenicity:* | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. |
| *Carcinogenicity:* | Based on the absence of mutagenicity, it is unlikely that the substance is carcinogenic. |
| *Reproductive toxicity:* | Two-Generation Reproduction Toxicity (OECD 416)<br>- NOAEL/rat > 250 mg/kg/day<br>Prenatal Development Toxicity Study (OECD 414)<br>- NOAEL/Maternal toxicity/rat > 50 mg/kg/day<br>- NOAEL/Developmental toxicity/rat > 50 mg/kg/day |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/600 days = 50 mg/kg/day |
| *Aspiration hazard:* | No known effects. |

## SECTION 12: Ecological Information

### *12.1. Toxicity*

*Information on the product as supplied:*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Fish/96 hours = 10 - 100 mg/L (Estimated) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia magna/48 hours = 10 - 100 mg/L. (Estimated) |
| *Acute toxicity to algae:* | Algal inhibition tests are not appropriate. The flocculation characteristics of the product interfere directly in the test medium preventing homogenous distribution which invalidates the test. |
| *Chronic toxicity to fish:* | No data available. |
| *Chronic toxicity to invertebrates:* | No data available. |
| *Toxicity to microorganisms:* | No data available. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute toxicity to fish:* | LC0/Oncorhynchus mykiss/96 hours > 1000 mg/L. (OECD 203) |
| *Acute toxicity to invertebrates:* | EC0/Daphnia magna/48 hours > 1000 mg/L. (OECD 202) |
| *Acute toxicity to algae:* | IC0/Pseudokirchneriella subcapitata/72 hours > 1000 mg/L. (OECD 201) |
| *Chronic toxicity to fish:* | NOEC/Oncorhynchus mykiss/28 days > 1000 mg/L |
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1000 mg/L |
| *Toxicity to microorganisms:* | EC50/Tetrahymena pyriformis/ 48h > 1000 mg/L. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. Readily biodegradable, exposure to sediment is unlikely. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Cyprinus carpio/96 hours = 1 - 10 mg/L (OECD 203) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia/48 hours = 1 - 10 mg/L (OECD 202) |
| *Acute toxicity to algae:* | IC50/Desmodesmus subspicatus/72 hours = 1 - 10 mg/L (OECD 201) |
| *Chronic toxicity to fish:* | No data available. |

| | |
|---|---|
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1 mg/L (OECD 202) |
| *Toxicity to microorganisms:* | EC10/activated sludge/17 hours > 10000 mg/L (DIN 38412-8) |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*12.2. Persistence and degradability*

*Information on the product as supplied:*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. |
| *Hydrolysis:* | At natural pHs (>6) the polymer degrades due to hydrolysis to more than 70% in 28 days. The hydrolysis products are not harmful to aquatic organisms. |
| *Photolysis:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. 67.6% / 28 days (OECD 301 F) ; 68.8% / 28 days (OECD 306) ; 61.2% / 61 days (OECD 304 A) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. > 60% / 28 days (OECD 301 B) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*12.3. Bioaccumulative potential*

*Information on the product as supplied:*

The product is not expected to bioaccumulate.

| | |
|---|---|
| *Partition co-efficient (Log Pow):* | Not applicable. |
| *Bioconcentration factor (BCF):* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Partition co-efficient (Log Pow):* 3 - 6

*Bioconcentration factor (BCF):* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Partition co-efficient (Log Pow):* > 3

*Bioconcentration factor (BCF):* No data available.

*12.4. Mobility in soil*

*Information on the product as supplied:*

No data available.

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Koc:* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Koc:* > 5000

*12.5. Other adverse effects*

None known.

## SECTION 13: Disposal considerations

*13.1. Waste treatment methods*

*Waste from residues/unused products:*

Dispose in accordance with local and national regulations.

*Contaminated packaging:*

Rinse empty containers with water and use the rinse-water to prepare the working solution. If recycling is not practicable, dispose of in compliance with local regulations. Can be landfilled or incinerated, when in compliance with local regulations.

*Recycling:*

Store containers and offer for recycling of material when in accordance with the local regulations.

## SECTION 14: Transport Information

*Land transport (DOT)*

Not classified.

*Sea transport (IMDG)*

Not classified.

*Air transport (IATA)*

Not classified.

## SECTION 15: Regulatory Information

*15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture*

*Information on the product as supplied:*

*TSCA Chemical Substances Inventory:*

All components of this product are either listed on the inventory or are exempt from listing.

*US SARA Reporting Requirements:*

*SARA (Section 311/312) hazard class:*
Not concerned.

*SARA Title III Sections:*

*Section 302 (TPQ) - Reportable Quantity:*
Not concerned.

*Section 304 - Reportable Quantity:*
Not concerned.

*Section 313 (De minimis concentration):*
Not concerned.

*Clean Water Act*

*Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:*
Not concerned.

*Clean Air Act*

*Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:*
Not concerned.

*CERCLA*

*Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:*
Not concerned.

*RCRA status :*

Not RCRA hazardous.

*California Proposition 65 Information:*

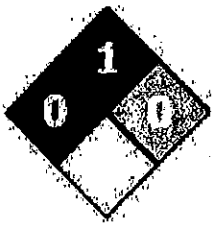
WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Acrylamide

## SECTION 16: Other information

*NFPA and HMIS Ratings:*

*NFPA:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Instability: | 0 |




*HMIS:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Physical Hazard: | 0 |
| PPE Code: | B |

*This data sheet contains changes from the previous version in section(s):*

SECTION 8. Exposure controls/personal protection, SECTION 15. Regulatory information, SECTION 16. Other Information.

*Key or legend to abbreviations and acronyms used in the safety data sheet:*

*Acronyms*
STOT = Specific target organ toxicity

*Abbreviations*
Acute Tox. 4 = Acute toxicity Category Code 4
Asp. Tox. 1 = Aspiration hazard Category Code 1
Eye Dam 1 = Serious eye damage/eye irritation Category Code 1

*Hazard statements*
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H318 - Causes serious eye damage

*Training advice:*

Do not handle until all safety precautions have been read and understood.

*This SDS was prepared in accordance with the following:*

U.S. Code of Federal Regulations 29 CFR 1910.1200

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Version: 17.01.a

ENCC046

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SNF POLYDYNE

# SAFETY DATA SHEET

According to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

*1.1. Product identifier*

*Product name:* **CLARIFLOC™ C-6260**

*Type of product:* Mixture.

*1.2. Relevant identified uses of the substance or mixture and uses advised against*

*Identified uses:* Processing aid for industrial applications.

*Uses advised against:* None.

*1.3. Details of the supplier of the safety data sheet*

*Company:* Polydyne Inc.
1 Chemical Plant Road
PO BOX 279, Riceboro, GA 31323
United States

*Telephone:* 1-800-848-7659

*Telefax:* (912)-884-8770

*E-mail address:* -

*1.4. Emergency telephone number*

*24-hour emergency number:* 1-800-424-9300

## SECTION 2: Hazards identification

*2.1. Classification of the substance or mixture*

*Classification according to paragraph (d) of 29 CFR 1910.1200:*

Not classified.

*2.2. Label elements*

*Labelling according to paragraph (f) of 29 CFR 1910.1200:*

| | |
|---|---|
| *Hazard symbol(s):* | None. |
| *Signal word:* | None. |
| *Hazard statement(s):* | None. |
| *Precautionary statement(s):* | None. |

*2.3. Other hazards*

Spills produce extremely slippery surfaces.

For explanation of abbreviations see Section 16.

## SECTION 3: Composition/information on ingredients

*3.1. Substances*
Not applicable, this product is a mixture.

*3.2. Mixtures*
This product is a mixture.

*Hazardous components*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Concentration/-range:* | 20 - 30% |
| *CAS Number:* | 64742-47-8 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Asp. Tox. 1;H304 |

*Notes*
*Does not result in classification of the mixture if the kinematic viscosity is greater than 20.5 mm²/s measured at 40°C.*

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Concentration/-range:* | < 5% |
| *CAS Number:* | 69011-36-5 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Acute Tox. 4;H302, Eye Dam. 1;H318 |

For explanation of abbreviations see section 16

## SECTION 4: First aid measures

## SECTION 4: First aid measures

### *4.1. Description of first aid measures*

*Inhalation:*
Move to fresh air. No hazards which require special first aid measures.

*Skin contact:*
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

*Eye contact:*
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

*Ingestion:*
Rinse mouth with water. Do NOT induce vomiting. Call a physician or poison control centre immediately.

### *4.2. Most important symptoms and effects, both acute and delayed*

None under normal use.

### *4.3. Indication of any immediate medical attention and special treatment needed.*

None reasonably foreseeable.

*Other information:*
None.

## SECTION 5: Fire-fighting measures

### *5.1. Extinguishing media*

*Suitable extinguishing media:*
Water. Water spray. Foam. Carbon dioxide ($CO_2$). Dry powder.
Warning! Spills produce extremely slippery surfaces.

*Unsuitable extinguishing media:*
None.

### *5.2. Special hazards arising from the substance or mixture*

*Hazardous decomposition products:*
Ammonia. Carbon oxides (COx). Nitrogen oxides (NOx). Hydrogen chloride. Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

### *5.3. Advice for fire-fighters*

*Protective measures:*
Wear self-contained breathing apparatus and protective suit.

*Other information:*
Spills produce extremely slippery surfaces.

## SECTION 6: Accidental release measures

### *6.1. Personal precautions, protective equipment and emergency procedures*

*Personal precautions:*
Do not touch or walk through spilled material. Spills produce extremely slippery surfaces.

*Protective equipment:*
Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

*Emergency procedures:*
Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

### *6.2. Environmental precautions*

As with all chemical products, do not flush into surface water.

### *6.3. Methods and material for containment and cleaning up*

Small spills:
Do not flush with water.Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large spills:
Do not flush with water.Dam up. Soak up with inert absorbent material. Clean up promptly by scoop or vacuum.

Residues:
After cleaning, flush away traces with water.

### *6.4. Reference to other sections*

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

## SECTION 7: Handling and storage

### *7.1. Precautions for safe handling*

Avoid contact with skin and eyes. Renders surfaces extremely slippery when spilled. When using, do not eat, drink or smoke.

### *7.2. Conditions for safe storage, including any incompatibilities*

Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material. Incompatible with oxidizing agents.

### *7.3. Specific end use(s)*

This information is not available.

## SECTION 8: Exposure controls/personal protection

### *8.1. Control parameters*

*Occupational exposure limits:*

*Distillates (petroleum), hydrotreated light*
*ACGIH:* 200 mg/m³ (8 hours)

*8.2. Exposure controls*

*Appropriate engineering controls:*

Ensure adequate ventilation, especially in confined areas. Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists.

*Individual protection measures, such as personal protective equipment:*

*a) Eye/face protection:*
Safety glasses with side-shields.

*b) Skin protection:*
*i) Hand protection:* PVC or other plastic material gloves.
*ii) Other:* Wear coveralls and/or chemical apron and rubber footwear where physical contact can occur.

*c) Respiratory protection:*
No personal respiratory protective equipment normally required.

*d) Additional advice:*
Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.

*Environmental exposure controls:*

Do not allow uncontrolled discharge of product into the environment.

## SECTION 9: Physical and chemical properties

*9.1. Information on basic physical and chemical properties*

| | |
|---|---|
| *a) Appearance:* | Viscous liquid, Milky. |
| *b) Odour:* | Aliphatic. |
| *c) Odour Threshold:* | No data available. |
| *d) pH:* | 3.5 - 6.5 @ 5 g/L |
| *e) Melting point/freezing point:* | < 5°C |
| *f) Initial boiling point and boiling range:* | > 100°C |
| *g) Flash point:* | Does not flash. |
| *h) Evaporation rate:* | No data available. |

| | |
|---|---|
| *l) Flammability (solid, gas):* | Not applicable. |
| *j) Upper/lower flammability or explosive limits:* | Not expected to create explosive atmospheres. |
| *k) Vapour pressure:* | 2.3 kPa @ 20°C |
| *l) Vapour density:* | 0.804 g/litre @ 20°C |
| *m) Relative density:* | 1.0 - 1.2 |
| *n) Solubility(ies):* | Completely miscible. |
| *o) Partition coefficient:* | Not applicable. |
| *p) Autoignition temperature:* | Not applicable. |
| *q) Decomposition temperature:* | > 150°C |
| *r) Viscosity:* | > 20.5 $mm^2/s$ @ 40°C |
| *s) Explosive properties:* | Not expected to be explosive based on the chemical structure. |
| *t) Oxidizing properties:* | Not expected to be oxidising based on the chemical structure. |

*9.2. Other information*

None.

## SECTION 10: Stability and reactivity

*10.1. Reactivity*

Stable under recommended storage conditions.

*10.2. Chemical stability*

Stable under recommended storage conditions.

*10.3. Possibility of hazardous reactions*

Oxidizing agents may cause exothermic reactions.

*10.4. Conditions to avoid*

Protect from frost, heat and sunlight.

*10.5. Incompatible materials*

Oxidizing agents.

*10.6. Hazardous decomposition products*

Thermal decomposition may produce: hydrogen chloride gas, nitrogen oxides (NOx), carbon oxides (COx). Ammonia. Hydrogen cyanide (hydrocyanic acid).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

*Information on the product as supplied:*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (Estimated) |
| *Acute dermal toxicity:* | LD50/dermal/rat > 5000 mg/kg. (Estimated) |
| *Acute inhalation toxicity:* | The product is not expected to be toxic by inhalation. |
| *Skin corrosion/irritation:* | Non-irritating to skin. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 437) |
| *Respiratory/skin sensitisation:* | Not sensitizing. |
| *Mutagenicity:* | Not mutagenic. |
| *Carcinogenicity:* | Not carcinogenic. |
| *Reproductive toxicity:* | Not toxic for reproduction. |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | No known effect. |
| *Aspiration hazard:* | Due to the viscosity, this product does not present an aspiration hazard. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (OECD 401) |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 5000 mg/kg. (OECD 402) |
| *Acute inhalation toxicity:* | LC0/inhalation/4 hours/rat >= 4951 mg/m³ (OECD 403) (Based on results obtained from tests on analogous products) |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404)<br>Repeated exposure may cause skin dryness or cracking. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 405) |
| *Respiratory/skin sensitisation:* | By analogy with similar products, this product is not expected to be sensitizing. (OECD 406) |
| *Mutagenicity:* | Not mutagenic. (OECD 471, 473, 474, 476, 478, 479) |

| | |
|---|---|
| *Carcinogenicity:* | Carcinogenicity study in rats (OECD 451): Negative. |
| *Reproductive toxicity:* | By analogy with similar substances, this substance is not expected to be toxic for reproduction. NOAEL/rat = 300 ppm. (OECD 421) |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/90 days >= 3000 mg/kg/day (OECD 408) (Based on results obtained from tests on analogous products) |
| *Aspiration hazard:* | May be fatal if swallowed and enters airways. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat = 500 - 2000 mg/kg |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 2000 mg/kg. |
| *Acute inhalation toxicity:* | No data available. |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404) |
| *Serious eye damage/eye irritation:* | Causes serious eye irritation. (OECD 405) |
| *Respiratory/skin sensitisation:* | The results of testing on guinea pigs showed this material to be non-sensitizing. |
| *Mutagenicity:* | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. |
| *Carcinogenicity:* | Based on the absence of mutagenicity, it is unlikely that the substance is carcinogenic. |
| *Reproductive toxicity:* | Two-Generation Reproduction Toxicity (OECD 416)<br>- NOAEL/rat > 250 mg/kg/day<br>Prenatal Development Toxicity Study (OECD 414)<br>- NOAEL/Maternal toxicity/rat > 50 mg/kg/day<br>- NOAEL/Developmental toxicity/rat > 50 mg/kg/day |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/600 days = 50 mg/kg/day |
| *Aspiration hazard:* | No known effects. |

## SECTION 12: Ecological Information

### *12.1. Toxicity*

*Information on the product as supplied:*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Fish/96 hours = 10 - 100 mg/L (Estimated) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia magna/48 hours = 10 - 100 mg/L. (Estimated) |
| *Acute toxicity to algae:* | Algal inhibition tests are not appropriate. The flocculation characteristics of the product interfere directly in the test medium preventing homogenous distribution which invalidates the test. |
| *Chronic toxicity to fish:* | No data available. |
| *Chronic toxicity to invertebrates:* | No data available. |
| *Toxicity to microorganisms:* | No data available. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute toxicity to fish:* | LC0/Oncorhynchus mykiss/96 hours > 1000 mg/L. (OECD 203) |
| *Acute toxicity to invertebrates:* | EC0/Daphnia magna/48 hours > 1000 mg/L. (OECD 202) |
| *Acute toxicity to algae:* | IC0/Pseudokirchneriella subcapitata/72 hours > 1000 mg/L. (OECD 201) |
| *Chronic toxicity to fish:* | NOEC/Oncorhynchus mykiss/28 days > 1000 mg/L |
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1000 mg/L |
| *Toxicity to microorganisms:* | EC50/Tetrahymena pyriformis/ 48h > 1000 mg/L. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. Readily biodegradable, exposure to sediment is unlikely. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Cyprinus carpio/96 hours = 1 - 10 mg/L (OECD 203) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia/48 hours = 1 - 10 mg/L (OECD 202) |
| *Acute toxicity to algae:* | IC50/Desmodesmus subspicatus/72 hours = 1 - 10 mg/L (OECD 201) |
| *Chronic toxicity to fish:* | No data available. |

| | |
|---|---|
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1 mg/L (OECD 202) |
| *Toxicity to microorganisms:* | EC10/activated sludge/17 hours > 10000 mg/L (DIN 38412-8) |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

### *12.2. Persistence and degradability*

*Information on the product as supplied:*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. |
| *Hydrolysis:* | At natural pHs (>6) the polymer degrades due to hydrolysis to more than 70% in 28 days. The hydrolysis products are not harmful to aquatic organisms. |
| *Photolysis:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. 67.6% / 28 days (OECD 301 F) ; 68.8% / 28 days (OECD 306) ; 61.2% / 61 days (OECD 304 A) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. > 60% / 28 days (OECD 301 B) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

### *12.3. Bioaccumulative potential*

*Information on the product as supplied:*

The product is not expected to bioaccumulate.

| | |
|---|---|
| *Partition co-efficient (Log Pow):* | Not applicable. |
| *Bioconcentration factor (BCF):* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Partition co-efficient (Log Pow):* 3 - 6

*Bioconcentration factor (BCF):* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Partition co-efficient (Log Pow):* > 3

*Bioconcentration factor (BCF):* No data available.

### 12.4. Mobility in soil

*Information on the product as supplied:*

No data available.

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Koc:* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Koc:* > 5000

### 12.5. Other adverse effects

None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

*Waste from residues/unused products:*

Dispose in accordance with local and national regulations.

*Contaminated packaging:*

Rinse empty containers with water and use the rinse-water to prepare the working solution. If recycling is not practicable, dispose of in compliance with local regulations. Can be landfilled or incinerated, when in compliance with local regulations.

*Recycling:*

Store containers and offer for recycling of material when in accordance with the local regulations.

## SECTION 14: Transport information

*Land transport (DOT)*

Not classified.

*Sea transport (IMDG)*

Not classified.

*Air transport (IATA)*

Not classified.

## SECTION 15: Regulatory information

*15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture*

*Information on the product as supplied:*

*TSCA Chemical Substances Inventory:*

All components of this product are either listed on the inventory or are exempt from listing.

*US SARA Reporting Requirements:*

*SARA (Section 311/312) hazard class:*
Not concerned.

*SARA Title III Sections:*

*Section 302 (TPQ) - Reportable Quantity:*
Not concerned.

*Section 304 - Reportable Quantity:*
Not concerned.

*Section 313 (De minimis concentration):*
Not concerned.

*Clean Water Act*

*Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:*
Not concerned.

*Clean Air Act*

*Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:*
Not concerned.

*CERCLA*

*Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:*
Not concerned.

*RCRA status :*

Not RCRA hazardous.

*California Proposition 65 Information:*

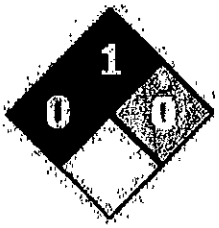
WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Acrylamide

## SECTION 16: Other information

*NFPA and HMIS Ratings:*

*NFPA:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Instability: | 0 |




*HMIS:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Physical Hazard: | 0 |
| PPE Code: | B |

*This data sheet contains changes from the previous version in section(s):*

SECTION 8. Exposure controls/personal protection, SECTION 15. Regulatory information, SECTION 16. Other Information.

*Key or legend to abbreviations and acronyms used in the safety data sheet:*

*Acronyms*
STOT = Specific target organ toxicity

*Abbreviations*
Acute Tox. 4 = Acute toxicity Category Code 4
Asp. Tox. 1 = Aspiration hazard Category Code 1
Eye Dam 1 = Serious eye damage/eye irritation Category Code 1

*Hazard statements*
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H318 - Causes serious eye damage

*Training advice:*

Do not handle until all safety precautions have been read and understood.

*This SDS was prepared in accordance with the following:*

U.S. Code of Federal Regulations 29 CFR 1910.1200

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Version: 17.01.a

ENCC046

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SNF POLYDYNE

# SAFETY DATA SHEET

According to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

*1.1. Product identifier*

*Product name:* **CLARIFLOC™ C-9455**

*Type of product:* Mixture.

*1.2. Relevant identified uses of the substance or mixture and uses advised against*

*Identified uses:* Processing aid for industrial applications.

*Uses advised against:* None.

*1.3. Details of the supplier of the safety data sheet*

*Company:* Polydyne Inc.
1 Chemical Plant Road
PO BOX 279, Riceboro, GA 31323
United States

*Telephone:* 1-800-848-7659

*Telefax:* (912)-884-8770

*E-mail address:* -

*1.4. Emergency telephone number*

*24-hour emergency number:* 1-800-424-9300

## SECTION 2: Hazards Identification

*2.1. Classification of the substance or mixture*

*Classification according to paragraph (d) of 29 CFR 1910.1200:*

Not classified.

*2.2. Label elements*

*Labelling according to paragraph (f) of 29 CFR 1910.1200:*

| | |
|---|---|
| *Hazard symbol(s):* | None. |
| *Signal word:* | None. |
| *Hazard statement(s):* | None. |
| *Precautionary statement(s):* | None. |

*2.3. Other hazards*

Spills produce extremely slippery surfaces.

For explanation of abbreviations see Section 16.

## SECTION 3: Composition/information on ingredients

*3.1. Substances*
Not applicable, this product is a mixture.

*3.2. Mixtures*
This product is a mixture.

*Hazardous components*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Concentration/ -range:* | 20 - 30% |
| *CAS Number:* | 64742-47-8 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Asp. Tox. 1;H304 |

*Notes*
*Does not result in classification of the mixture if the kinematic viscosity is greater than 20.5 mm²/s measured at 40°C.*

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Concentration/ -range:* | < 5% |
| *CAS Number:* | 69011-36-5 |
| *Classification according to paragraph (d) of 29 CFR 1910.1200:* | Acute Tox. 4;H302, Eye Dam. 1;H318 |

For explanation of abbreviations see section 16

## SECTION 4: First aid measures

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

*Inhalation:*
Move to fresh air. No hazards which require special first aid measures.

*Skin contact:*
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

*Eye contact:*
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

*Ingestion:*
Rinse mouth with water. Do NOT induce vomiting. Call a physician or poison control centre immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

None under normal use.

### 4.3. Indication of any immediate medical attention and special treatment needed.

None reasonably foreseeable.

*Other information:*
None.

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

*Suitable extinguishing media:*
Water. Water spray. Foam. Carbon dioxide ($CO_2$). Dry powder.
Warning! Spills produce extremely slippery surfaces.

*Unsuitable extinguishing media:*
None.

### 5.2. Special hazards arising from the substance or mixture

*Hazardous decomposition products:*
Ammonia. Carbon oxides (COx). Nitrogen oxides (NOx). Hydrogen chloride. Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

### 5.3. Advice for fire-fighters

*Protective measures:*
Wear self-contained breathing apparatus and protective suit.

*Other information:*
Spills produce extremely slippery surfaces.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

*Personal precautions:*
Do not touch or walk through spilled material. Spills produce extremely slippery surfaces.

*Protective equipment:*
Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

*Emergency procedures:*
Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

### 6.2. Environmental precautions

As with all chemical products, do not flush into surface water.

### 6.3. Methods and material for containment and cleaning up

Small spills:
Do not flush with water.Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large spills:
Do not flush with water.Dam up. Soak up with inert absorbent material. Clean up promptly by scoop or vacuum.

Residues:
After cleaning, flush away traces with water.

### 6.4. Reference to other sections

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid contact with skin and eyes. Renders surfaces extremely slippery when spilled. When using, do not eat, drink or smoke.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material. Incompatible with oxidizing agents.

### 7.3. Specific end use(s)

This information is not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

*Occupational exposure limits:*

*Distillates (petroleum), hydrotreated light*
*ACGIH:* 200 mg/m³ (8 hours)

*8.2. Exposure controls*

*Appropriate engineering controls:*

Ensure adequate ventilation, especially in confined areas. Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists.

*Individual protection measures, such as personal protective equipment:*

*a) Eye/face protection:*
Safety glasses with side-shields.

*b) Skin protection:*
*i) Hand protection:* PVC or other plastic material gloves.
*ii) Other:* Wear coveralls and/or chemical apron and rubber footwear where physical contact can occur.

*c) Respiratory protection:*
No personal respiratory protective equipment normally required.

*d) Additional advice:*
Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.

*Environmental exposure controls:*

Do not allow uncontrolled discharge of product into the environment.

## SECTION 9: Physical and chemical properties

*9.1. Information on basic physical and chemical properties*

| | |
|---|---|
| *a) Appearance:* | Viscous liquid, Milky. |
| *b) Odour:* | Aliphatic. |
| *c) Odour Threshold:* | No data available. |
| *d) pH:* | 3.5 - 6.5 @ 5 g/L |
| *e) Melting point/freezing point:* | < 5°C |
| *f) Initial boiling point and boiling range:* | > 100°C |
| *g) Flash point:* | Does not flash. |
| *h) Evaporation rate:* | No data available. |

| | |
|---|---|
| *l) Flammability (solid, gas):* | Not applicable. |
| *j) Upper/lower flammability or explosive limits:* | Not expected to create explosive atmospheres. |
| *k) Vapour pressure:* | 2.3 kPa @ 20°C |
| *l) Vapour density:* | 0.804 g/litre @ 20°C |
| *m) Relative density:* | 1.0 - 1.2 |
| *n) Solubility(ies):* | Completely miscible. |
| *o) Partition coefficient:* | Not applicable. |
| *p) Autoignition temperature:* | Not applicable. |
| *q) Decomposition temperature:* | > 150°C |
| *r) Viscosity:* | > 20.5 $mm^2/s$ @ 40°C |
| *s) Explosive properties:* | Not expected to be explosive based on the chemical structure. |
| *t) Oxidizing properties:* | Not expected to be oxidising based on the chemical structure. |

*9.2. Other information*

None.

## SECTION 10: Stability and reactivity

*10.1. Reactivity*

Stable under recommended storage conditions.

*10.2. Chemical stability*

Stable under recommended storage conditions.

*10.3. Possibility of hazardous reactions*

Oxidizing agents may cause exothermic reactions.

*10.4. Conditions to avoid*

Protect from frost, heat and sunlight.

*10.5. Incompatible materials*

Oxidizing agents.

*10.6. Hazardous decomposition products*

Thermal decomposition may produce: hydrogen chloride gas, nitrogen oxides (NOx), carbon oxides (COx). Ammonia. Hydrogen cyanide (hydrocyanic acid).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

*Information on the product as supplied:*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (Estimated) |
| *Acute dermal toxicity:* | LD50/dermal/rat > 5000 mg/kg. (Estimated) |
| *Acute inhalation toxicity:* | The product is not expected to be toxic by inhalation. |
| *Skin corrosion/irritation:* | Non-irritating to skin. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 437) |
| *Respiratory/skin sensitisation:* | Not sensitizing. |
| *Mutagenicity:* | Not mutagenic. |
| *Carcinogenicity:* | Not carcinogenic. |
| *Reproductive toxicity:* | Not toxic for reproduction. |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | No known effect. |
| *Aspiration hazard:* | Due to the viscosity, this product does not present an aspiration hazard. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat > 5000 mg/kg (OECD 401) |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 5000 mg/kg. (OECD 402) |
| *Acute inhalation toxicity:* | LC0/inhalation/4 hours/rat >= 4951 mg/m³ (OECD 403) (Based on results obtained from tests on analogous products) |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404)<br>Repeated exposure may cause skin dryness or cracking. |
| *Serious eye damage/eye irritation:* | Not irritating. (OECD 405) |
| *Respiratory/skin sensitisation:* | By analogy with similar products, this product is not expected to be sensitizing. (OECD 406) |
| *Mutagenicity:* | Not mutagenic. (OECD 471, 473, 474, 476, 478, 479) |

| | |
|---|---|
| *Carcinogenicity:* | Carcinogenicity study in rats (OECD 451): Negative. |
| *Reproductive toxicity:* | By analogy with similar substances, this substance is not expected to be toxic for reproduction. NOAEL/rat = 300 ppm. (OECD 421) |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/90 days >= 3000 mg/kg/day (OECD 408) (Based on results obtained from tests on analogous products) |
| *Aspiration hazard:* | May be fatal if swallowed and enters airways. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute oral toxicity:* | LD50/oral/rat = 500 - 2000 mg/kg |
| *Acute dermal toxicity:* | LD50/dermal/rabbit > 2000 mg/kg. |
| *Acute inhalation toxicity:* | No data available. |
| *Skin corrosion/irritation:* | Not irritating. (OECD 404) |
| *Serious eye damage/eye irritation:* | Causes serious eye irritation. (OECD 405) |
| *Respiratory/skin sensitisation:* | The results of testing on guinea pigs showed this material to be non-sensitizing. |
| *Mutagenicity:* | In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. |
| *Carcinogenicity:* | Based on the absence of mutagenicity, it is unlikely that the substance is carcinogenic. |
| *Reproductive toxicity:* | Two-Generation Reproduction Toxicity (OECD 416)<br>- NOAEL/rat > 250 mg/kg/day<br>Prenatal Development Toxicity Study (OECD 414)<br>- NOAEL/Maternal toxicity/rat > 50 mg/kg/day<br>- NOAEL/Developmental toxicity/rat > 50 mg/kg/day |
| *STOT - Single exposure:* | No known effects. |
| *STOT - Repeated exposure:* | NOAEL/oral/rat/600 days = 50 mg/kg/day |
| *Aspiration hazard:* | No known effects. |

## SECTION 12: Ecological information

### *12.1. Toxicity*

*Information on the product as supplied:*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Fish/96 hours = 10 - 100 mg/L (Estimated) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia magna/48 hours = 10 - 100 mg/L. (Estimated) |
| *Acute toxicity to algae:* | Algal inhibition tests are not appropriate. The flocculation characteristics of the product interfere directly in the test medium preventing homogenous distribution which invalidates the test. |
| *Chronic toxicity to fish:* | No data available. |
| *Chronic toxicity to invertebrates:* | No data available. |
| *Toxicity to microorganisms:* | No data available. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Acute toxicity to fish:* | LC0/Oncorhynchus mykiss/96 hours > 1000 mg/L. (OECD 203) |
| *Acute toxicity to invertebrates:* | EC0/Daphnia magna/48 hours > 1000 mg/L. (OECD 202) |
| *Acute toxicity to algae:* | IC0/Pseudokirchneriella subcapitata/72 hours > 1000 mg/L. (OECD 201) |
| *Chronic toxicity to fish:* | NOEC/Oncorhynchus mykiss/28 days > 1000 mg/L |
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1000 mg/L |
| *Toxicity to microorganisms:* | EC50/Tetrahymena pyriformis/ 48h > 1000 mg/L. |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. Readily biodegradable, exposure to sediment is unlikely. |

*Poly(oxy-1,2-ethanediyl), α-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Acute toxicity to fish:* | LC50/Cyprinus carpio/96 hours = 1 - 10 mg/L (OECD 203) |
| *Acute toxicity to invertebrates:* | EC50/Daphnia/48 hours = 1 - 10 mg/L (OECD 202) |
| *Acute toxicity to algae:* | IC50/Desmodesmus subspicatus/72 hours = 1 - 10 mg/L (OECD 201) |
| *Chronic toxicity to fish:* | No data available. |

| | |
|---|---|
| *Chronic toxicity to invertebrates:* | NOEC/Daphnia magna/21 days > 1 mg/L (OECD 202) |
| *Toxicity to microorganisms:* | EC10/activated sludge/17 hours > 10000 mg/L (DIN 38412-8) |
| *Effects on terrestrial organisms:* | No data available. |
| *Sediment toxicity:* | No data available. |

*12.2. Persistence and degradability*

*Information on the product as supplied:*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. |
| *Hydrolysis:* | At natural pHs (>6) the polymer degrades due to hydrolysis to more than 70% in 28 days. The hydrolysis products are not harmful to aquatic organisms. |
| *Photolysis:* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. 67.6% / 28 days (OECD 301 F) ; 68.8% / 28 days (OECD 306) ; 61.2% / 61 days (OECD 304 A) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

| | |
|---|---|
| *Degradation:* | Readily biodegradable. > 60% / 28 days (OECD 301 B) |
| *Hydrolysis:* | Does not hydrolyse. |
| *Photolysis:* | No data available. |

*12.3. Bioaccumulative potential*

*Information on the product as supplied:*

The product is not expected to bioaccumulate.

| | |
|---|---|
| *Partition co-efficient (Log Pow):* | Not applicable. |
| *Bioconcentration factor (BCF):* | No data available. |

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Partition co-efficient (Log Pow):* 3 - 6

*Bioconcentration factor (BCF):* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Partition co-efficient (Log Pow):* > 3

*Bioconcentration factor (BCF):* No data available.

### 12.4. Mobility in soil

*Information on the product as supplied:*

No data available.

*Relevant information on the hazardous components:*

*Distillates (petroleum), hydrotreated light*

*Koc:* No data available.

*Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched*

*Koc:* > 5000

### 12.5. Other adverse effects

None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

*Waste from residues/unused products:*

Dispose in accordance with local and national regulations.

*Contaminated packaging:*

Rinse empty containers with water and use the rinse-water to prepare the working solution. If recycling is not practicable, dispose of in compliance with local regulations. Can be landfilled or incinerated, when in compliance with local regulations.

*Recycling:*

Store containers and offer for recycling of material when in accordance with the local regulations.

## SECTION 14: Transport information

*Land transport (DOT)*

Not classified.

*Sea transport (IMDG)*

Not classified.

*Air transport (IATA)*

Not classified.

## SECTION 15: Regulatory information

*15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture*

*Information on the product as supplied:*

*TSCA Chemical Substances Inventory:*

All components of this product are either listed on the inventory or are exempt from listing.

*US SARA Reporting Requirements:*

*SARA (Section 311/312) hazard class:*
Not concerned.

*SARA Title III Sections:*

*Section 302 (TPQ) - Reportable Quantity:*
Not concerned.

*Section 304 - Reportable Quantity:*
Not concerned.

*Section 313 (De minimis concentration):*
Not concerned.

*Clean Water Act*

*Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:*
Not concerned.

*Clean Air Act*

*Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:*
Not concerned.

*CERCLA*

*Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:*
Not concerned.

*RCRA status :*

Not RCRA hazardous.

*California Proposition 65 Information:*

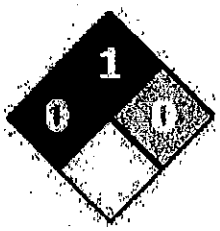
WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Acrylamide

## SECTION 16: Other information

*NFPA and HMIS Ratings:*

*NFPA:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Instability: | 0 |




*HMIS:*

| | |
|---|---|
| Health: | 0 |
| Flammability: | 1 |
| Physical Hazard: | 0 |
| PPE Code: | B |

*This data sheet contains changes from the previous version in section(s):*

SECTION 8. Exposure controls/personal protection, SECTION 15. Regulatory information, SECTION 16. Other Information.

*Key or legend to abbreviations and acronyms used in the safety data sheet:*

*Acronyms*
STOT = Specific target organ toxicity

*Abbreviations*
Acute Tox. 4 = Acute toxicity Category Code 4
Asp. Tox. 1 = Aspiration hazard Category Code 1
Eye Dam 1 = Serious eye damage/eye irritation Category Code 1

*Hazard statements*
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H318 - Causes serious eye damage

*Training advice:*

Do not handle until all safety precautions have been read and understood.

*This SDS was prepared in accordance with the following:*

U.S. Code of Federal Regulations 29 CFR 1910.1200

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Version: 17.01.a

ENCC046

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.