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-1531**

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

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

Aqueous solutions or powders that become wet render surfaces extremely slippery.

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

Adipic acid

Concentration/ -range: <= 2.5%

CAS Number: 124-04-9

Classification according to paragraph (d) of 29 CFR 1910.1200: Eye Irrit. 2A;H319

Sulfamic acid

Concentration/ -range: <= 2.5%

CAS Number: 5329-14-6

Classification according to paragraph (d) of 29 CFR 1910.1200: Skin Irrit. 2;H315, Eye Irrit. 2A;H319

For explanation of abbreviations see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Move to fresh air. Get medical attention if symptoms occur.

Skin contact:
Wash off with soap and plenty of water. Get medical attention if irritation develops and persists.

Eye contact:
Rinse immediately with plenty of water, also under the eyelids. Get medical attention.

Ingestion:
Rinse mouth. If conscious, give the victim plenty of water to drink. Induce vomiting, but only if victim is fully conscious.

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

Powder can cause localised skin irritation in folds of the skin or under tight clothing. Contact with dust can cause mechanical irritation or drying of the skin.

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

None.

Other information:
No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water. Water spray. Foam. Carbon dioxide (CO2). Dry powder.
Warning! Aqueous solutions or powders that become wet render surfaces extremely slippery.

Unsuitable extinguishing media:
None known.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products:
Thermal decomposition may produce: hydrogen chloride gas, nitrogen oxides (NOx), carbon oxides (COx). Ammonia (NH3). Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

5.3. Advice for firefighters

Protective measures:
Wear self contained breathing apparatus for fire fighting if necessary.

Other information:
Aqueous solutions or powders that become wet render surfaces extremely slippery.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions:
Avoid contact with skin and eyes. Avoid dust formation. Avoid breathing dust. Aqueous solutions or powders that become wet render surfaces extremely slippery.

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.Clean up promptly by sweeping or vacuum.

Large spills:
Do not flush with water.Prevent unauthorized access. Sweep up and shovel into suitable containers for disposal.

Residues:
Sweep up to prevent slip hazard. 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. Avoid dust formation. Avoid breathing dust. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry place.
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:

Adipic acid
ACGIH: 5 mg/m³ (8 hours)

8.2. Exposure controls

Appropriate engineering controls:

Use local exhaust if dusting occurs. Natural ventilation is adequate in absence of dusts.

Individual protection measures, such as personal protective equipment:

a) Eye/face protection:
Safety glasses with side-shields. Do not wear contact lenses where this product is used. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

b) Skin protection:
i) Hand protection: PVC or other plastic material gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it.
ii) Other: Chemical resistant apron or protective suit if splashing or repeated contact with solution is likely. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

c) Respiratory protection:
Dust safety masks recommended where working powder concentration is more than 10 mg/m³. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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:	Granular solid, White.
b) Odour:	None.
c) Odour Threshold:	Not applicable.
d) pH:	2.5 - 4.5 @ 5 g/L (See Technical Bulletin or Product Specifications for a more precise value, if available)
e) Melting point/freezing point:	> 100°C
f) Initial boiling point and boiling range:	Not applicable.
g) Flash point:	Not applicable.

h) Evaporation rate:	Not applicable.
i) Flammability (solid, gas):	Not combustible.
j) Upper/lower flammability or explosive limits:	Not expected to create explosive atmospheres.
k) Vapour pressure:	Not applicable.
l) Vapour density:	Not applicable.
m) Relative density:	0.6 - 0.9 (See Technical Bulletin or Product Specifications for a more precise value, if available)
n) Solubility(ies):	Soluble in water.
o) Partition coefficient n-octanol/water (log value):	< 0
p) Autoignition temperature:	Not applicable.
q) Decomposition temperature:	> 200°C
r) Viscosity:	See Technical Bulletin.
s) Kinematic viscosity:	No data available.
t) Explosive properties:	Not expected to be explosive based on the chemical structure.
u) Oxidizing properties:	Not expected to be oxidising based on the chemical structure.
v) Particle characteristics:	No data available.

9.2. Other information

None.

SECTION 10: Stability and reactivity

10.1. Reactivity

Hazardous polymerisation does not occur.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Oxidizing agents may cause exothermic reactions.

10.4. Conditions to avoid

None known.

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 (NH3). 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
Acute dermal toxicity:	LD50/dermal/rat > 5000 mg/kg.
Acute inhalation toxicity:	The product is not expected to be toxic by inhalation.
Skin corrosion/irritation:	Not irritating.
Serious eye damage/eye irritation:	Testing conducted according to the Draize technique showed the material produces no corneal or iridial effects and only slight transitory conjuctival effects similar to those which all granular materials have on conjuctivae.
Respiratory/skin sensitisation:	The results of testing on guinea pigs showed this material to be non-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:	No hazards resulting from the material as supplied.

Relevant information on the hazardous components:

Adipic acid

Acute oral toxicity:	LD50/oral/rat = 5560 mg/kg (OECD 401)
Acute dermal toxicity:	LD0/dermal/rabbit >= 3176 mg/kg
Acute inhalation toxicity:	LC0/inhalation/4 hours/rat > 7.7 mg/L (OECD 403)
Skin corrosion/irritation:	Slightly irritating.

Serious eye damage/eye irritation:	Not irritating. (OECD 405) (SNF)
Respiratory/skin sensitisation:	Not sensitizing.
Mutagenicity:	Negative in the Ames Test (OECD 471). Negative in the In vitro Mammalian Cell Gene Mutation Test (OECD 476).
Carcinogenicity:	Based on available data, product is not expected to be carcinogenic. Carcinogenicity study in rat: NOAEL > 750 mg/kg/day
Reproductive toxicity:	Based on available data, product is not expected to be toxic for reproduction. NOAEL/Maternal toxicity/rat >= 288 mg/kg/day NOAEL/Developmental toxicity/rat >= 288 mg/kg/day
STOT - Single exposure:	No known effects.
STOT - Repeated exposure:	No known effect.
Aspiration hazard:	No known effects.

Sulfamic acid

Acute oral toxicity:	LD50/oral/rat = 2065 - 2140 mg/kg
Acute dermal toxicity:	NOAEL/dermal/rat = 2000 mg/kg (OECD 402)
Acute inhalation toxicity:	The product is not expected to be toxic by inhalation.
Skin corrosion/irritation:	Not irritating. (OECD 404) (SNF)
Serious eye damage/eye irritation:	Moderately irritating to the eyes. (EPA OPPTS 870.2400)
Respiratory/skin sensitisation:	The product is not expected to be sensitizing.
Mutagenicity:	Negative in the Ames Test (OECD 471). Negative in the In vitro Mammalian Cell Gene Mutation Test (OECD 476). Not mutagenic. (OECD 472, 487)
Carcinogenicity:	Based on the absence of mutagenicity, it is unlikely that the substance is carcinogenic.
Reproductive toxicity:	Based on available data, product is not expected to be toxic for reproduction. Prenatal Development Toxicity Study (OECD 414) - NOAEL/Maternal toxicity/rat = 200 mg/kg/day - NOAEL/Developmental toxicity/rat = 200 mg/kg/day

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/Danio rerio/96 hours = 5 - 10 mg/L (OECD 203)

Acute toxicity to invertebrates: EC50/Daphnia magna/48 hours = 20 - 50 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. Readily biodegradable, exposure to soil is unlikely.

Sediment toxicity: No data available. Readily biodegradable, exposure to sediment is unlikely.

Relevant information on the hazardous components:

Adipic acid

Acute toxicity to fish: LC0/Danio rerio/96 hours >= 1000 mg/L

Acute toxicity to invertebrates: EC50/Daphnia magna/48 hours = 46 mg/L (OECD 202)

Acute toxicity to algae: IC50/Selenastrum capricornutum/72 hours = 59 mg/L (OECD 201)

Chronic toxicity to fish: No data available.

Chronic toxicity to invertebrates: NOEC/Daphnia magna/21 days = 6.3 mg/L (OECD 211)

Toxicity to microorganisms: EC50/activated sludge/3 hours = 4747 mg/L (OECD 209)

Effects on terrestrial organisms: No data available.

Sediment toxicity: No data available.

Sulfamic acid

Acute toxicity to fish: LC50/Pimephales promelas/96 hours = 70.3 mg/L (OECD 203)

Acute toxicity to invertebrates: EC50/Daphnia magna/48 hours = 71.6 mg/L (OECD 202)

Acute toxicity to algae: IC50/Scenedesmus subspicatus/72 hours = 48 mg/L (OECD 201)

Chronic toxicity to fish: NOEC/Danio rerio/34 days >= 60 mg/L (OECD 210)

Chronic toxicity to invertebrates: NOEC/Daphnia magna/21 days = 19 mg/L (OECD 211)

Toxicity to microorganisms: EC50/activated sludge/3 hours > 200 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: Based on the degradability data of the components, this product is expected to be readily (bio)degradable according to OECD criteria.

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:

Adipic acid

Degradation: Readily biodegradable. > 70% / 28 days (OECD 301 D)

Hydrolysis: Does not hydrolyse.

Photolysis: Half-life (indirect photolysis): = 2.9 days

Sulfamic acid

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): ~0

Relevant information on the hazardous components:

Adipic acid

Partition co-efficient (Log Pow): 0.093 @ 25°C, pH 3.3

Bioconcentration factor (BCF): ~ 0

Sulfamic acid

Partition co-efficient (Log Pow): -4.34 @ 20°C

Bioconcentration factor (BCF): ~ 0

12.4. Mobility in soil

Information on the product as supplied:

No data available.

Relevant information on the hazardous components:

Adipic acid

Koc: No data available.

Sulfamic acid

Koc: No data available.

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. Can be landfilled or incinerated, when in compliance with local 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 as active 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:
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:

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

Relevant information on the hazardous components:

Adipic acid

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:	0
Flammability:	0
Instability:	0

HMIS:

Health:	0
Flammability:	0
Physical Hazard:	0
PPE Code:	B

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

SECTION 3. Composition/information on ingredients, SECTION 5. Fire-fighting measures, SECTION 8. Exposure controls/personal protection, 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 Irrit. 2A = Serious eye damage/eye irritation Category Code 2A
Skin Irrit. 2 = Skin corrosion/irritation Category Code 2

Hazard statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation

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: 20.01.a

PRCC003

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.