SAFETY DATA SHEET

According to Federal Regulation 29 CFR 1910.1200

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: TRAMFLOC® 319 Cationic Solution Polymer

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:	Tramfloc, Inc.
	6046 FM 2920 Rd. #615
	Spring, TX 77379-2542
Telephone:	888-929-8973
Telefax:	480-383-6895
E-mail address:	water@tramfloc.com

1.4 Emergency telephone number:

24-hour emergency number: 800-424-9300 CHEMTREC (CCN 20412), Outside US 703-527-3887

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

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

Not classified.

2.2. Label elements

Labelling according to paragraph (f) of Regulation 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 not a substance.

3.2 Mixtures

Hazardous components
Contains no reportable hazardous substances.

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:

Carbon oxides (CO_x). Nitrogen oxides (NO_x). 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.

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

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:

None known.

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:

Eye/face protection:	Safety glasses with side-shields.
Skin protection:	Wear coveralls and/or chemical apron and rubber footwear where physical contact can occur.
Hand protection:	PVC or other plastic material gloves.
Respiratory protection:	No personal respiratory protective equipment normally required.
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

Appearance:	Clear to slightly yellow liquid.
Odor:	None.
Odor Threshold:	No data available.
PH:	5 – 8
Melting point/freezing point:	< 0°C

Initial boiling point and boiling range: > 100°C

Flash point:	Does not flash.
Evaporation rate:	No data available.
Flammability (solid, gas):	Not applicable.

Upper/lower flammability or explosive limits: Not expected to create explosive atmospheres.

Vapor pressure:	2.3 kPa @ 20°C
Vapor density:	0.804 g/liter @ 20°C
Relative density:	1.0 – 1.3
Solubility(ies):	Completely miscible.
Partition coefficient:	< 0
Autoignition temperature:	Does not self-ignite (based on the chemical structure).
Decomposition temperature:	> 150°C
Approx. viscosity @ 5g/l:	see TIB
Explosive properties:	Not expected to be explosive based on the chemical structure.
Oxidizing properties:	Not expected to be oxidizing 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 (NO_x), carbon oxides (CO_x). Ammonia. Hydrogen cyanide (hydrocyanic acid).

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Information on the product as supplied:

Acute oral toxicity:	LD_{50}/oral/rat > 5000 mg/kg
Acute dermal toxicity:	LD_{50}/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 vapor 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 sensitization:	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 effects.
Aspiration hazard:	No hazards resulting from the material as supplied.

SECTION 12. Ecological information

12.1. Toxicity

Information on the product as supplied:

Acute toxicity to fish:	LC50/Danio rerio/96 hours = 10 - 100 mg/L
Acute toxicity to invertebrates:	EC50/Daphnia magna/48 hours = > 50 mg/L
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:

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.

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

12.4. Mobility in soil

Information on the product as supplied:

No data available.

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 of in accordance with local regulations.

Contaminated packaging:

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.

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: 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 1. Identification of the substance/mixture and of the company/undertaking, SECTION 2. Hazards identification, SECTION 3. Composition/information on ingredients, SECTION 4. First aid measures, SECTION 5. Fire-fighting measures, SECTION 6. Accidental release measures, SECTION 7. Handling and storage, SECTION 8. Exposure controls/personal protection, SECTION 9. Physical and chemical properties, SECTION 10. Stability and reactivity, SECTION 11. Toxicological information, SECTION 12. Ecological information, SECTION 13. Disposal considerations, SECTION 14. Transport information, SECTION 15. Regulatory information, SECTION 16. Other Information.

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

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

H-Phrases

H302 - Harmful if swallowed

H304 - May be fatal if swallowed and enters airways

H318 - Causes serious eye damage

This SDS was prepared in accordance with the following:

Federal Regulation 29 CFR 1910.1200

The information contained herein is to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, Tramfloc, Inc. makes no guarantee for results obtained, and assumes no responsibility for damages incurred by use of this product. It is the responsibility of the user to comply with all federal, state, and local laws and regulations.