

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® 406 Cationic Granular Powder

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

Adipic acid

Concentration/ gamme : <=2.5%

CAS Number: 124-04-9

Classification according to paragraph

(d) of Regulation 29 CFR 1910.1200: Eye Irritant 2A;H319

Sulfamic acid

Concentration/ gamme : <= 2.5%

CAS Number: 5329-14-6

Classification according to paragraph

(d) of Regulation 29 CFR 1910.1200: Skin Irritant 2;H315, Eye Irritant 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 immediately with soap and plenty of water. 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. Induce vomiting, but only if victim is fully conscious. Call a physician or poison control centre immediately.

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

Powder can cause localized 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 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.

Unsuitable extinguishing media:

None.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products:

Thermal decomposition may produce: hydrogen chloride gas, nitrogen oxides (NO_x), carbon oxides (CO_x). Hydrogen cyanide (hydrocyanic acid) may be produced in the even of the combustion in an oxygen deficient atmosphere.

5.3. Advice for fire-fighters

Protective measures:

In the event of fire, wear self-contained breathing apparatus.

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

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. Clean up promptly by sweeping 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. Avoid dust formation. Avoid breathing dust. Wash hands before breaks and at the end of the work day.

7.2. Conditions for safe storage, including any incompatibilities.

Keep in a dry place. Incompatible with oxidizing agents.

7.3. Specific end use(s)

Processing aid for industrial applications.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Adipic acid

ACGIH: 5 mg/m³ (8 hour)

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:

Eye/face protection: Safety glasses with side-shields. Do not wear contact lenses around product.

Skin protection: Chemical resistant apron or protective suit is splashing or repeated contact with solution is likely.

Hand protection: PVC or other plastic material gloves.

Respiratory protection: Dust safety masks recommended where working powder concentration is more than 10 mg/m³.

Additional advice: 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

Appearance: Granular solid. White.

Odor: None.

Odor Threshold: Not applicable.

pH: 2.5 – 4.5 @ 5 g/L

Melting point/freezing point: > 100°C

Initial boiling point and boiling range: Not applicable.

Flash point:	Not applicable.
Evaporation rate:	Not applicable.
Flammability (solid, gas):	No data available.
Upper/lower flammability or explosive limits:	Not expected to create explosive atmospheres.
Vapor pressure:	Not applicable.
Vapor density:	Not applicable.
Relative density:	0.6 – 0.9
Solubility(ies):	Soluble in water.
Partition coefficient:	< 0
Autoignition temperature:	Not applicable.
Decomposition temperature:	> 200° C
Viscosity:	See Technical Bulletin
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

Hazardous polymerization does not occur.

10.2. Chemical stability

Stable under normal conditions.

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 (NO_x), carbon oxides (CO_x). 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 conjunctival effects similar to those which all granular materials have on conjunctivae.
Respiratory/skin sensitization: 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 effects.
Aspiration hazard: No hazards resulting from the material as supplied.

Relevant information on the hazardous components:

Adipic acid

Acute oral toxicity: LD₅₀/oral/rat > 2000 mg/kg
Acute dermal toxicity: LD₅₀/dermal/rabbit > 2000 mg/kg
Acute inhalation toxicity: LC₅₀/inhalation/4 h/rat = 7.7 mg/L
Skin corrosion/irritation: Slightly irritating
Serious eye damage/eye irritation: Not irritating. (OECD 405)
Respiratory/skin sensitization: Not sensitizing.
Mutagenicity: Negative in the In vitro Mammalian Cell Gene Mutation Test (OECD 476)
Carcinogenicity: Not carcinogenic
Reproductive toxicity: Not toxic for reproduction.
STOT - single exposure: No known effects.
STOT - repeated exposure: No known effects.
Aspiration hazard: No known effects.

Sulfamic acid

Acute oral toxicity: LD₅₀/oral/rat > 2000 mg/kg
Acute dermal toxicity: NOAEL/dermal/rabbit = 2000 mg/kg (OECD 402)
Acute inhalation toxicity: No data available.
Skin corrosion/irritation: Not irritating.
Serious eye damage/eye irritation: Moderately irritating to the eyes. (EPA OPPTS 870.2400)
Respiratory/skin sensitization: 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: No data available.

STOT - single exposure: No known effects.

STOT - repeated exposure: No known effects.

Aspiration hazard: No known effects.

SECTION 12. Ecological information

12.1. Toxicity

Information on the product as supplied:

Acute toxicity to fish: LC_{50} /Danio rerio/96 hours = 5 - 10 mg/L (Estimated)

Acute toxicity to invertebrates: EC_{50} /Daphnia magna/48 hours = 20 - 50 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. 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: LC_0 /Danio rerio/96 hours \geq 1000 mg/L

Acute toxicity to invertebrates: EC_0 /Daphnia magna/48 hours = 46 mg/L (OECD 202)

Acute toxicity to algae: IC_{50} /Selenastrum capricornutum/72 hours = 59 mg/L (OECD 201)

Chronic toxicity to fish: No data available.

Chronic toxicity to invertebrates: No data available.

Toxicity to microorganisms: EC_{50} /activated sludge/3 h $>$ 200 mg/L (OECD 209)

Effects on terrestrial organisms: No data available.

Sediment toxicity: No data available.

Sulfamic acid

Acute toxicity to fish: LC_{50} /Pimephales promelas/96 hours = 70.3 mg/L (OECD 203)

Acute toxicity to invertebrates: EC_{50} /Daphnia/48 hours = 71.6 mg/L (OECD 202)

Acute toxicity to algae: IC_{50} /Scenedesmus subspicatus/72 hours = 48 mg/L (OECD 201)

Chronic toxicity to fish: No data available.

Chronic toxicity to invertebrates: No data available.

Toxicity to microorganisms: EC_{50} /activated sludge/3 h $>$ 200 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. > 70% / 28 days (OECD 301 D)

Hydrolysis: Does not hydrolyze..

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

Relevant information on the hazardous components:

Adipic acid

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

Hydrolysis: Does not hydrolyze.

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

Sulfamic acid

Degradation: Not relevant (inorganic)

Hydrolysis: Does not hydrolyze.

Photolysis: No data available.

12.3. Bioaccumulative potential

Information on the product as supplied:

Not bioaccumulating.

Partition co-efficient (Log Pow): < 0

Bioconcentration factor (BCF): Not data available.

Relevant information on the hazardous components:

Adipic acid

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

Bioconcentration factor (BCF): No data available.

Sulfamic acid

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

Bioconcentration factor (BCF): No data available.

12.4. Mobility in soil

Information on the product as supplied:

None.

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. Dispose in accordance with local and national regulations. Can be landfilled or incinerated, when in compliance with local regulations.

Recycling:

The product and its packaging are not suitable for recycling.

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.

Relevant information on the hazardous components:

Adipic acid

Clean Water Act

CWA-Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity: 5000 lbs

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

CWA-Section 311 Hazardous Substances (40 CFR 117.3) Reportable Quantity- 5,000 lbs.

CERCLA Hazardous Substances (40 CFR 302.4) Reportable Quantity- 5,000 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 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.