MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT and COMPANY IDENTIFICATION

PRODUCT NAME: TRAMFLOC® 343

DATE ISSUED: 06/01/12 SUPERSEDES: 05/07/99

DESCRIPTION: Acrylamide/methacrylamidopropyltrimethylammonium chloride, 30% in water.

COMPANY IDENTIFICATION: Tramfloc, Inc. P. O. Box 350 Tempe, AZ 85280-0350 480-491-6895

EMERGENCY TELEPHONE: 24 hours a day, 7 days a week CHEMTREC 1-800-424-9300

SECTION 2 - COMPOSITION/INFORMATION on INGREDIENTS

CHEMICAL NAME Acrylamide/maptac copolymer; CAS No. 58627-30-8

Cationic water soluble polymer in emulsion. This product is not considered hazardous in accordance with OSHA regulation 20 CFR 1910.1200.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW - Straw colored viscous liquid with amine or musty odor. Spills are very slippery. Avoid contact with skin eyes and clothing.

POTENTIAL HEALTH EFFECTS

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Prolonged or repeated eye contact may cause irritation.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Prolonged or repeated skin contact may cause irritation.

EFFECTS OF OVEREXPOSURE - INHALATION: Not available; EFFECTS OF OVEREXPOSURE - INGESTION: Not available.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Not available; PRIMARY ROUTE OF ENTRY - Skin

SECTION 4 - FIRST AID MEASURES

INHALATION: Not expected to be harmful. Remove patient to fresh air.

SKIN: Flush immediately with soap and water for at least 15 minutes.

PRODUCT NAME: TRAMFLOC[®] 343

EYE CONTACT: Flush with water at least 15 minutes with eyelids open. Call a physician.

INGESTION: Material is not expected to be harmful by ingestion. If swallowed, do not induce vomiting. Give victim a glass of water. Consult a physician. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE-FIGHTING MEASURES

FLASHPOINT: >212⁰ F, Closed Cup.

FLAMMABILITY: None; AUTO FLAMMABILITY: None

EXPLOSIVE LIMITS: LOWER: Not applicable; UPPER: Not applicable. EXPLOSION HAZARD- None EXTINGUISHING MEDIA: Use water, foam, carbon dioxide or dry chemical to extinguish.

EXTINGUISHING MEDIA WHICH MUST NOT BE USED: None.

SPECIAL EXPOSURE HAZARDS IN A FIRE: In a fire may liberate oxides of nitrogen, carbon or hydrogen chloride. Keep containers cool by spraying with water if exposed to fire.

SPECIAL PROTECTIVE EQUIPMENT: No special protective equipment required.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

ENVIRONMENTAL PRECAUTIONS: Avoid runoff into storm sewers and ditches. Do not flush with water.

METHODS FOR CLEANUP: Recycle if possible. If not, dike and absorb spill with inert materials such as clays, sand, earth, or other commercially available dry sweeping compound, and collect for disposal in accordance with federal, state, local or other applicable laws and regulations. Large spills should be contained and pumped into salvage tanks. Product may cause a slip hazard. If slippery conditions persist, apply dry sweeping compound.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Avoid contact with eyes, skin and clothing. Make solutions within adequately ventilated areas.

STORAGE: Avoid storage temperatures $<32^{\circ}$ F as product may be either affected or damaged.

SECTION 8 - EXPOSURE CONTROLS/ PERSONAL PROTECTION

ENGINEERING CONTROLS: General ventilation is recommended. Eyewash and safety shower stations are recommended.

EXPOSURE GUIDELINES - No MAC values have been established.

PERSONAL PROTECTIVE EQUIPMENT: See below

RESPIRATORY PROTECTION: Is normally not needed since volatility and toxicity are low. If significant vapors, mists, or aerosols are present, use NIOSH approved respirator (ANSI Z 882.1980) or equivalent

HAND PROTECTION: Wear rubber gloves.

PRODUCT NAME: TRAMFLOC® 343

EYE PROTECTION: Wear safety glasses with side shields. Do not wear contact lenses.

SKIN PROTECTION: Chemical resistant apron or suit. If clothing is contaminated, wash skin and launder clothing.

NOTE: Before eating, drinking or smoking, wash face and hands thoroughly with soap and water.

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL STATE, COLOR and ODOR: Milky, viscous liquid with aliphatic odor.

pH as is: 4.5-6.0; BOILING POINT/RANGE: >212^oF; WATER SOLUBILITY: Completely soluble

MELTING POINT/RANGE: NA; FLASH POINT: >212⁰ F

VAPOR PRESSURE: 0.13 mm @ 20° C; SPECIFIC GRAVITY: 1.04

SECTION 10 - STABILITY and REACTIVITY

CHEMICAL STABILITY: Stable. No hazardous polymerization will occur.

CONDITIONS TO AVOID: None.

MATERIALS TO AVOID: Strong oxidizers, iron, mild steel, copper, copper alloys or aluminum.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of nitrogen, carbon dioxide and/or carbon monoxide, and hydrogen chloride may be formed in a fire.

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: LD_{50} ORAL (rat) = > 5000 mg/kg; Product is not expected to bioaccumulate.

IRRITANCY AND CORROSIVENESS: May be slightly irritating to skin and eyes on prolonged exposure. No evidence of corrosiveness.

SENSITIZATION: This product is no expected to be sensitizing. Prolonged skin contact may produce dermatitis.

SUBACUTE, SUBCHRONIC AND PROLONGED TOXICITY: This product is not expected to be toxic by inhalation.

EMPIRICAL DATA ON EFFECTS ON HUMANS: Considered non-toxic in normal use.

SECTION 12 - ECOLOGICAL INFORMATION

PERSISTENCE IN THE ENVIRONMENT: Not available.

Aquatic toxicity is highly mitigated by the presence of dissolved organic carbon. Results obtained using the EPA's "Dirty Water" test show that irreversible adsorption onto suspended matter present reduces aquatic toxicity by factors of 10 to 100 times in the presence of 5 to 10 mg/l organic carbon as is found in most surface waters.

PRODUCT NAME: TRAMFLOC[®] 343

OTHER INFORMATION: Discharge of this product must be in accordance with all federal, state, local or other applicable laws and regulations.

SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Recycle if possible. If not, absorb spilled material on inert absorbent and dispose of solidified material in accordance with federal, state, local or other applicable laws and regulations.

SECTION 14 - TRANSPORTATION INFORMATION

Non-Hazardous, Non-Regulated

SECTION 15 - REGULATORY INFORMATION

U. S. FEDERAL REGULATIONS:

CERCLA-SARA Hazard Category:

Reportable or Threshold Quantities: NA

No SARA Section 313 components exist in this product.

INVENTORY INFORMATION

EEC EINECS: All components of this product are included on the European Inventory of Existing Chemical Substances (EINECS) in compliance with Council Directive 67/548/EEC as amended.

US TSCA: This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S.C.

CANADA DSL: Components of this product have been reported to Environment Canada in accordance with subsection 25 of the Canadian Environmental Protection Act and are included on the Domestic Substances List.

SECTION 16 - OTHER INFORMATION

HMIS RATINGS: HEALTH: 1; FLAMMABILITY: 1; REACTIVITY: 0

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.