

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT and COMPANY IDENTIFICATION

PRODUCT NAME: TRAMFLOC® 876

DATE ISSUED: 06/01/11

SUPERSEDES: 05/07/99

DESCRIPTION: Cationic Tannin Solution Polymer

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: 800-424-9300

SECTION 2 - COMPOSITION/INFORMATION on INGREDIENTS

CHEMICAL NAME	WT/WT % EQUAL TO	CAS NUMBER
2-Hydroxyethyl compounds	34	104376-81-0

HAZARDOUS COMPONENTS

Hydrochloric Acid	<3.0	7647-01-0
-------------------	------	-----------

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW - Dark amber liquid with slight amine odor. Avoid contact with skin eyes and clothing.

POTENTIAL HEALTH EFFECTS

EFFECTS OF OVEREXPOSURE - EYE CONTACT: May cause moderate eye irritation or injury, especially after repeated or prolonged contact.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: May cause moderate skin irritation or injury, especially after repeated or prolonged contact.

EFFECTS OF OVEREXPOSURE - INHALATION: May cause irritation of the respiratory tract.

EFFECTS OF OVEREXPOSURE - INGESTION: May cause moderate irritation to the gastrointestinal tract.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Formaldehyde, a component of this product, has been determined to be a possible cancer hazard based on tests with laboratory animals. Considered a suspected human carcinogen by ACGIH and OSHA.

PRIMARY ROUTE OF ENTRY- Skin contact.

Product Name: Tramfloc® 876

SECTION 4 - FIRST AID MEASURES

INHALATION: Remove patient to fresh air. If victim has stopped breathing, give artificial respiration. Seek medical attention.

SKIN: Flush immediately with soap and water for at least 15 minutes. Remove and wash contaminated clothing before reuse. In case of persistent skin irritation, consult a physician.

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

INGESTION: Do not induce vomiting. Give victim plenty 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: Water soluble polymer in solution. Use water spray, foam, carbon dioxide, or dry chemical to extinguish.

EXTINGUISHING MEDIA WHICH MUST NOT BE USED: None.

SPECIAL EXPOSURE HAZARDS IN A FIRE: Product may become combustible following evaporation of non combustible components. Keep containers cool by spraying with water if exposed to fire.

SPECIAL PROTECTIVE EQUIPMENT: Self-contained breathing apparatus should be worn.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

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

METHODS FOR CLEANUP: Recycle if possible. Do not flush with water. Dam up. Absorb spill with inert absorbent 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. After cleaning, flush away traces with water.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Keep containers closed. Avoid contact with eyes, skin and clothing. When preparing the working solution, ensure that there is adequate ventilation. Do not breathe vapor or mist or smoke.

Product Name: Tramfloc[®] 876

STORAGE: Avoid storage temperatures <32⁰ F. Product can be adversely affected. Store in plastic.

SECTION 8 - EXPOSURE CONTROLS/ PERSONAL PROTECTION

ENGINEERING CONTROLS: Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists. Eye wash stations are recommended.

EXPOSURE GUIDELINES: Formaldehyde 0.37 ppm STEL/C (ACGIH), OSHA: 0.75 ppm 8-hr TWA, STEL: 0.2 ppm; Hydrochloric acid: 5 ppm TWA/C (OSHA, ACGIH)

PERSONAL PROTECTIVE EQUIPMENT: See below

RESPIRATORY PROTECTION: In case of insufficient ventilation, wear suitable respiratory equipment, such as NIOSH approved respirator (ANSI Z 882.1980) or equivalent

HAND PROTECTION: Wear impervious rubber gloves.

EYE PROTECTION: Wear chemical splash proof goggles or face mask. Do not wear contact lenses.

SKIN PROTECTION: Wear chemical resistant apron or protective suit if splashing or contact with solution is likely. If skin 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: Reddish-brown dark liquid with slightly sweet odor.

pH as is: 1.0 - 2.0; Density: 9.4 lbs./gal.

BOILING POINT: >212⁰ F; Ionic Character: Cationic; Molecular Weight: Low

MELTING POINT: NA; Shelf Life: Six months when stored between 32 and 80⁰ F

FLASH POINT: >200⁰ F

VAPOR PRESSURE: No data available

SPECIFIC GRAVITY: 1.09 - 1.10; WATER SOLUBILITY: Completely miscible

SECTION 10 - STABILITY and REACTIVITY

CHEMICAL STABILITY: Stable. No hazardous polymerization will occur.

CONDITIONS TO AVOID: Prolonged heating or addition of caustic will cause gellation.

MATERIALS TO AVOID: Strong oxidizers, bases, stainless steel, copper, copper alloys or aluminum.

Product Name: Tramfloc® 876

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of nitrogen, carbon and/or ammonia.

SECTION 11 - TOXICOLOGICAL INFORMATION

SKIN: May cause irritation; EYES: May cause eye irritation in susceptible people.

SUBACUTE AND PROLONGED TOXICITY: Not known. SENSITIZATION: Mists may irritate respiratory tract.

SECTION 12 - ECOLOGICAL INFORMATION

PERSISTENCE IN THE ENVIRONMENT: Not available.

AQUATIC TOXICITY: It is highly mitigated by the presence of dissolved organic carbon in the water. Results obtained using the USEPA "Dirty Water" test show that irreversible adsorption onto suspended matter and dissolved organics such as humic and other organic acids present in natural waters, reduces toxicity to aquatic organisms by a factor of > 10.

Rainbow Trout (*Oncorhynchus Mykiss*), 96-Hour LC₅₀: 168 mg/l
Water Flea (*Daphnia Magna*), 24-Hour LC₅₀: 52 mg/l

NOTE: Aquatic toxicity is reduced 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. This product is not expected to bioaccumulate.

OTHER INFORMATION: Substance is biodegradable in aerobic and anaerobic conditions.

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. Rinse empty containers with water and use the rinse water to prepare working solution. Can be land filled or incinerated when in compliance with local regulations.

SECTION 14 - TRANSPORTATION INFORMATION

ADR/RID Proper shipping name: corrosive liquid, acidic, inorganic, n. o. s. (Contains Hydrochloric Acid, Formaldehyde); Hazard Class: 8; Packing Group: III; UN-No: 3264

D.O.T. Proper shipping name: corrosive liquid, acidic, inorganic, n. o. s. (Contains Hydrochloric Acid, Formaldehyde); Hazard Class: 8; Packing Group: III; UN-No: 3264

ICAO/IATA Proper shipping name: corrosive liquid, acidic, inorganic, n. o. s. (Contains Hydrochloric Acid, Formaldehyde); Hazard Class: 8; Packing Group: III; Transport label: Corrosive

Canada Proper shipping name: corrosive liquid, acidic, inorganic, n. o. s. (Contains Hydrochloric Acid, Formaldehyde); Hazard Class: 8; Packing Group: III; Transport label: Corrosive

Product Name: Tramfloc® 876

SECTION 15 - REGULATORY INFORMATION

U. S. FEDERAL REGULATIONS: All components of this product are on the TSCA and DSL inventories.

RCRA STATUS: May become hazardous waste if discarded.

Hazardous Waste Number: D002, based on pH requirement of 40CFR 261.22

Reportable quantity (40 CFR 302): 100,000 lbs. Of product if spilled, based on total formaldehyde in product.

California Proposition 65 Information: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains a chemical(s) known to the State of California to cause cancer: formaldehyde.

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: 2; FLAMMABILITY: 0; REACTIVITY: 1

NFPA RATINGS: HEALTH: 2; FLAMMABILITY: 0; REACTIVITY: 1

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.