

SAFETY DATA SHEET

According to Federal Regulation 29 CFR 1910.1200

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

Product identifier

Product name: TRAMFLOC® 924

Type of product: Mixture

Other identification

Chemical Family Mixture

CAS No. Mixture

Trade Name TRAMFLOC® 924

Product Code None

Uses advised against: none

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

Emergency telephone number: CHEMTREC 24 hr. 1-800-424-9300 / 1-703-527-3887 (Collect calls accepted)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

OSHA HCS (29 CFR 1910.1200) Skin Corrosion/Irritation. 1B; Eye Dam. 1; Acute Toxicity (Oral = 3/Inhalation = 4); Met. Corr. 1

Label elements

Hazard Symbol

Signal Word(s)

DANGER

Hazard Statement(s)

Causes severe skin burns and eye damage . May be corrosive to metals . Very toxic to aquatic life

Toxic if swallowed. Harmful if inhaled

Precautionary Statement(s)

Keep only in original container.

Do not breath mist, vapor or spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors in a well-ventilated area.

Avoid release to the environment.

Wear protective gloves.

IF SWALLOWED:

Rinse mouth. Do NOT induce vomiting.

Immediately call a Poison Control Center.

IF ON SKIN (or hair):

Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED:

Remove person to fresh air and keep comfortable for breathing.

IF IN EYES:

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

Immediately call a poison center or physician. Do not induce vomiting.

Wash contaminated clothing before reuse.

Absorb spillage to prevent material damage.

Collect spillage.

Store locked up.

Store in corrosive resistant container with a resistant inner liner.

Dispose of contents/container in accordance with local, state, federal and international regulation.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<i>Hazardous Ingredient(s)</i>	<i>% wt.</i>	<i>CAS No.</i>
Sodium Hydrosulfide Solution	Trade Secret	16721-80-5
Water	Trade Secret	7732-18-5

Additional Information - Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below.

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Inhalation

Call a Poison Center or doctor/physician if exposed or you feel unwell. Remove person from source of exposure to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration using a pocket mask or resuscitation device. Direct mouth contact should be avoided if possible due to the potential for residual corrosive liquid around the person's mouth and airways.

Skin Contact

Immediately remove contaminated clothing and shoes. In case of contact, immediately flush skin with soap and plenty of water. Get medical attention immediately if irritation (redness, rash, blistering) develops and persists.

Eye Contact

In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention immediately. Person may be kept in a dark room with ice compresses applied to eyes and forehead until medical treatment is available. Speed in treatment may prevent permanent eye damage.

Ingestion

Call a physician or a poison control center immediately. If vomiting occurs, keep head low so that stomach contents do not enter the lungs. If conscious, rinse the mouth out several times with cold water and spit out. Give one or two cups of water or milk. This may be followed by gastric antacids, such as milk of magnesia or aluminum hydroxide. Stop if victim becomes nauseated. **DO NOT INDUCE VOMITING** unless instructed to do so by medical personnel. Never give anything by mouth to an unconscious person. If the victim stops breathing: administer artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms and effects, both acute and delayed

Some medical protocols prescribe the use of amyl nitrite as part of first aid treatment. Do not use amyl nitrite treatment if oxygen is not available. Amyl nitrite is only a useful adjunct during the first 10 to 15 minutes following exposure. Once breathing is restored, provide a high flow of oxygen and amyl nitrite if appropriate. Symptoms of pulmonary edema may be delayed for 24 to 72 hours after initial exposure. Therefore, hospitalization and medical observation is advisable during this period.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

-Suitable Extinguishing Media

Non-combustible / Non-flammable. As appropriate for surrounding fire. Lower Explosive Limit: 4% (hydrogen sulfide) Upper Explosive Limit: 46% (hydrogen sulfide)

-Unsuitable Extinguishing Media

As appropriate for surrounding fire.

Special hazards arising from the substance or mixture

Product solution is non-flammable. However, trace levels of flammable hydrogen sulfide gas are continuously released in air, especially when product is heated or exposed to acids. Gas may form explosive mixtures in air. Do not cut open or apply heat sources to containers. Thermal decomposition

("burning") may evolve toxic and irritating combustion by-products - hydrogen sulfide.

Advice for fire-fighters

Avoid breathing vapors, gases and fumes. Do not touch, handle or walk-through spilled liquid. Firefighters should wear a positive pressure-demand self-contained breathing apparatus (SCBA) and full protective gear. Containers may build up pressure if exposed to radiant heat. Water can be used to cool and protect exposed material. Do not allow runoff to enter sewers or waterways. Move containers away from fire area if safe to do so.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Put on protective equipment before entering danger area. Wear protective gloves/protective clothing/eye protection/face protection.

Environmental precautions

Prevent substance entering sewers.

Methods and material for containment and cleaning up

Cover spills with inert absorbent material. Transfer to a container for disposal or recovery.

Reference to other sections

None

Additional Information

None

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing vapour, gas or mist. Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities

-Storage temperature

Keep away from heat or flame. Store in a cool, dry, well-ventilated area out of direct sunlight (<104° F, 40° C). Keep container tightly closed. Keep away from children.

-Incompatible materials

Not compatible with copper, zinc, aluminum or their alloys (e.g., brass, bronze, galvanized metals, etc.). Corrosive to steel above 150° F (65.5° C).

Specific end use(s)

Precipitant

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Recommended monitoring method

Real-time (electrochemical sensors)

Exposure controls

Appropriate engineering controls

Use outdoors or indoors only with adequate general and local exhaust ventilation. Maintain exposures to hydrogen sulfide below occupational exposure limits. The use of hydrogen sulfide air monitoring detectors with alarms is recommended for poorly ventilated areas and confined spaces.

Personal protection equipment

Eye/face protection

At a minimum, chemical splash goggles or face shield over safety glasses or goggles should be worn at all times when handling. A full face piece should be worn with SCBA or air-line respirator.

Skin protection (Hand protection/ Other)

The use of chemical-resistant gloves made of neoprene rubber is recommended as minimum industrial skin protection when handling product or performing spill clean-up. Chemical resistant apron, and/or suit and boots should be worn to prevent skin contact. Chemical protective clothing constructed of DuPont Tychem Responder or equivalent material may be used for spill clean-up.

Respiratory protection

Engineering controls should be implemented preferentially to reduce exposures. If working near open container, storage vessel opening or open tank truck dome cover, wear self-contained breathing apparatus, or positive pressure demand air-line respirator if there is a potential for exposure. Air-purifying (cartridge) respirators should not be used, except for escape purposes, due to the possible presence of hydrogen sulfide.

Thermal hazards

Not normally required. Use gloves with insulation for thermal protection, when needed.

Environmental Exposure Controls

Collect all precipitate. Disposal should be in accordance with local, state or national legislation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid
Color.	Yellow to dark green
Odor	Rotten Egg/Sulfur
Odor Threshold (ppm)	Not available
pH (Value)	11.5 – 13.0
Boiling point/boiling range (°C):	253 °F – 269 °F
Flash Point (°C)	Non-combustible / Non-flammable
Evaporation Rate	Similar to Water

Flammability (solid, gas)	Not applicable
Explosive Limit Ranges	Not applicable
Vapor pressure (Pascal)	17 mm Hg @ 68°F, 20°C
Vapor Density (Air=1)	1.17
Density (g/ml)	1.066 – 1.186
Solubility (Water)	Complete
Solubility (Other)	Not available
Partition Coefficient (n-Octanol/water)	Not available
Auto Ignition Point (°C)	Non-combustible / Non-flammable
Decomposition Temperature (°C)	Not available
Kinematic Viscosity	Not available
Explosive properties	Not explosive
Oxidizing properties	Not oxidizing
Other information	
Not available	

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions
Chemical stability	Stable.
Possibility of hazardous polymerization	Will not occur
Conditions to avoid	Incompatible materials
Incompatible materials alloys	Acids, Copper, Zinc, aluminum or their
Hazardous decomposition product(s) sulfide.	Heating this product will evolve hydrogen

SECTION 11: TOXICOLOGICAL INFORMATION

Eye Effects

Corrosive and irritating. Vapors, mist and spray may cause severe eye irritation and burns to the conjunctiva and cornea. Permanent eye damage may occur. Exposure to hydrogen sulfide at low concentrations over several hours or days may result in "gas eyes" or "sore eyes", with symptoms of scratchiness, irritation, tearing, and burning. Symptoms are likely to disappear when the exposure ends. Prolonged exposures to concentrations over 50 ppm may cause permanent damage or intense tearing, blurring of vision, and pain when looking at bright light.

Skin Effects

Corrosive and irritating to skin and mucous membranes. Skin contact with liquid, mist or spray may cause severe irritation, pain, redness (erythema), and burns to skin and mucous membranes. These

effects may be delayed

Acute Oral Effects

Very toxic. May be fatal by ingestion. Corrosive and irritating to skin and mucous membranes of the mouth and throat. Ingestion of small amounts in a single dose may produce irritation or burning of the esophagus. Ingesting larger quantities, or small quantities over an extended period, may seriously damage the gastrointestinal tract. Aspiration hazard. Sodium hydrosulfide that mixes with stomach acids produces hydrogen sulfide, which may cause irritation, pulmonary edema and other health effects related to inhalation of H₂S. Pulmonary edema may be delayed and fatal.

Acute Inhalation Effects

Corrosive and irritating. Inhalation of vapors or mist may cause severe irritation to the nose, throat, and respiratory system. Symptoms include runny nose, coughing, sneezing, hoarseness, headache, nausea, shortness of breath and severe lung damage. The gases released by the product may contain high levels of hydrogen sulfide. High concentrations of H₂S may produce olfactory fatigue (i.e., the inability to smell H₂S), a build up of fluid in the lungs (pulmonary edema), severe shortness of breath, and even death. Possible death may occur in 4 to 8 hours at high concentrations. At very high concentrations, severe toxicity to the central nervous system, respiratory paralysis and nerve damage may occur.

Chronic/Carcinogenicity

Neither the product overall nor any of its ingredients are known to be listed as potentially carcinogenic by NTP, IARC, OSHA or ACGIH.

Reproductive Effects

No human information available for any ingredients of this product.

Mutagenicity (Genetic Effects)

Sodium hydrosulfide is positive in the Ames Test at high concentrations. No information is available regarding the germ cell mutagenicity of this product or its ingredients.

Ingredient(s) –

Toxicological Data

sodium hydrosulfide

LD50 (dermal, rabbit): >200

mg/kg LD50 (oral, rat): 58.4 mg/kg

sodium carbonate

LC50 (inhal, guinea pig): 800 mg/m³ (2 hrs) LC50 (inhal, rat): 2300 mg/m³ (2 hrs)

LD50 (oral, mouse): 6600 mg/kg LD50 (oral, rat): 2800 mg/kg

sodium sulfide

LD50 (oral, rat): 208 mg/kg LD50 (oral, mouse): 205 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological Information

Very toxic to fish and aquatic organisms. Do not allow to enter sewers and waterways.

Static acute 96 hour-LC50 for mosquito fish is 206 mg/L. (TLm - fresh water)

LC50 fly inhalation 1,500 mg/m³, 7 minutes

TLm Gammarus 0.84 mg/L, 96 hours (hydrogen sulfide)

TLm Ephemera 0.316 mg/L, 96 hours (hydrogen sulfide)

TLm Flathead minnow 0.071 - 0.55 mg/L @ 6-24°C, 96 hour flow through bioassay (hydrogen sulfide)

TLm Bluegill 0.0090 - 0.0140 mg/L @ 20-trout 0.0216 - 0.0308 mg/L @ 8-12.5°C, 96 hour flow through bioassay (hydrogen sulfide)

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose in accordance with applicable federal, state and local government regulations. Waste materials may be required to be disposed of as hazardous waste. Do not allow into any sewer, on the ground, or into any body of water.

RCRA Information

Waste solutions may meet the RCRA Corrosive characteristic (D003). RCRA waste classification D002 may apply if pH is greater than 12.5.

SECTION 14: TRANSPORT INFORMATION

	Land transport (U.S. DOT)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN number	UN 2922	UN 2922	UN 2922
Proper Shipping Name	Corrosive liquid, Toxic, n.o.s. (Sodium Hydrosulfide Solution)		
Transport hazard class(es)	8 (6.1)	8 (6.1)	8 (6.1)
Packing group	II	II	II
Hazard label(s)	Corrosive, Toxic	Corrosive, Toxic	Corrosive, Toxic
Environmental hazards	Yes	Yes	Yes
Special precautions for user assigned	None assigned	None assigned	None

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not established.

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:

TSCA (Toxic Substance Control Act) - Inventory Status: All components listed or polymer exempt.

Designated Hazardous Substances and Reportable Quantities (40 CFR 302.4):

Chemical Name	CAS No.	Typical %wt.	RQ (Pounds)
-	-	-	-

SARA 311/312 - Hazard Categories:

Fire Sudden Release Reactivity Immediate (acute) Chronic (delayed)

SARA 313 - Toxic Chemicals (40 CFR 372):

Chemical Name	CAS No.	Typical %wt.
None	----	----

SARA 302 - Extremely Hazardous Substances(40 CFR 355):

Chemical Name	CAS No.	Typical %wt.	TPQ (pounds)
None	----	----	----

California Proposition 65 List:

Chemical Name	CAS No.	Type of Toxicity
None	----	----

SECTION 16: OTHER INFORMATION

HMIS RATINGS: Health=3, Flammability=2, Reactivity=1

HMIS HAZARD INDEX: 0=MINIMAL, 1=SLIGHT, 2=MODERATE, 3=SERIOUS, 4=SEVERE

The following sections contain revisions or new statements: 2, 11, and 12.

Date of preparation: July, 7 2015; Revision: September 21, 2015; September 13, 2016

Additional Information: None

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.