

MATERIAL SAFETY DATA SHEET

MSDS No.: FND20C

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Revision Date: March 17, 2009
Approved by: James A. Bertsch

Section 1 Chemical Product and Company Information

Product	NEUTRAL DETERGENT SOLUTION, CONCENTRATE
Synonyms	N/A

CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300

Section 2 Hazards Identification

Emergency Overview

WARNING!
HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE SKIN AND EYE IRRITATION.
Avoid contact with skin, eyes and clothing. Avoid breathing dusts.
Target organs: Eyes, skin.

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Severe

Health	2
Fire	0
Reactivity	0
Contact	0

HMIS *

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	TLV Units (ACGIH 2001)
Sodium lauryl sulfate	151-21-3	50.02%	None established.
EDTA disodium, dihydrate	6381-92-6	31.03%	None established.
Sodium borate, decahydrate	1303-96-4	11.35%	TWA: 5 mg/m ³
Sodium phosphate, dibasic, anhydrous	7558-79-4	7.60%	None established.

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN CONTACT: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

General information: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool. Fires involving a small amount of combustibles may be smothered by dry chemical. In fire conditions, hazardous decomposition products may be formed as dust or fume. Dusts at sufficient concentrations can cause explosive mixtures with air.

Extinguishing Media: Carbon dioxide, dry chemical, water spray, alcohol foam.

Flash Point: N/A

Autoignition temperature: N/A

Explosion Limits: Lower: N/A **Upper:** N/A

Section 6 Accidental Release Measures

Use proper personal protective equipment as indicated in Section 8. Remove all sources of ignition. Provide adequate ventilation. Recover for use if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water. Avoid runoff into storm sewers and ditches which lead to waterways.

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Severe



Section 7 Handling & Storage GENERAL STORAGE CODE GREEN

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. For laboratory use only. Not for drug, food or household use. Keep out of reach of children.
Handling: Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale dusts. Wash thoroughly after handling. Remove and wash clothing before reuse.
Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure Controls / Personal Protection

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Physical state: Solid.
Appearance: White to slightly yellow powder.
Odor: Slight fatty odor.
pH: N/A
Vapor pressure (mm Hg): N/A
Vapor Density (Air = 1): N/A
Evaporation rate (Butyl acetate = 1): N/A
Viscosity: N/A

Boiling point: N/A
Freezing / Melting point: N/A
Decomposition temperature: N/A
Solubility: Complete.
Specific gravity (H₂O = 1): N/A
Percent volatile (%): 100%
Molecular formula: Mixture.
Molecular weight: Mixture.

Section 10 Stability & Reactivity

Chemical stability: Stable
Hazardous polymerization: Will not occur.
Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition.

Incompatibilities with other materials: Strong oxidizers, acids, reducing agents, iron, brass, copper and strong alkalis.

Hazardous decomposition products: Thermal decomposition may produce oxides of carbon, sulfur, sodium, boron, phosphorus, and nitrogen. Sodium hydroxide and ammonia.

Section 11 Toxicological Information

Effects of overexposure: Inhalation of dust may cause respiratory tract irritation, coughing, shortness of breath. Ingestion may cause gastrointestinal irritation with nausea, vomiting, and diarrhea. Causes eye irritation, redness and pain. Causes skin irritation, dryness and rash. May cause allergic skin reaction. To the best of our knowledge the chemical, physical and toxicological properties of this mixture has not been thoroughly investigated. Specific data is not available for this mixture. Exercise appropriate procedures to minimize potential hazards.

ORL-RAT LD50: 1288 mg/kg (Sodium lauryl sulfate)
ORL-RAT LD50: 2000 mg/kg (EDTA)
ORL-RAT LD50: 4500 - 5000 mg/kg (Sodium borate)

Section 12 Ecological Information

Data not yet available.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information

UN/NA number: N/A
Shipping name: Not Regulated.
Hazard class: N/A
Packing group: N/A
Exceptions: N/A

Section 15 Regulatory Information

All components listed with TSCA, EINECS, and DSL.

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards.

MATERIAL SAFETY DATA SHEET

MSDS No.: Part 2
Revision Date: March 17, 2009
Approved by: James A. Bertsch

MSDS No.: TT0250

Section 1 Chemical Product and Company Information

Product	TRIETHYLENE GLYCOL
Synonyms	TEG; Triglycol

CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300

Section 2 Hazards Identification

Emergency Overview

WARNING!
CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION.
Avoid contact with skin, eyes and clothing. Use with adequate ventilation.
Store in a cool, dry place. Wash thoroughly after handling.
Target organs: None known.

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Severe

Health	1
Fire	1
Reactivity	0
Contact	1

HMIS *

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	TLV Units (ACGIH 2001)
Triethylene glycol	112-27-6	100%	None established.

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN CONTACT: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

General information: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Fire or excessive heat may produce hazardous decomposition products to be produced as dust or fume. Use water spray to keep fire-exposed containers cool. Above the flash point, explosive vapor-air mixtures may be formed.

Extinguishing Media: Water spray, dry chemical, alcohol foam, or carbon dioxide.

Flash Point: 177°C (351°F) CC (Combustible)

Autoignition temperature: 371°C (700°F)

Explosion Limits: Lower: 0.9% **Upper:** 9.2%

Section 6 Accidental Release Measures

Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Remove all sources of ignition. Provide adequate ventilation. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water. Avoid runoff into storm sewers and ditches which lead to waterways.

NFPA

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Section 7 Handling & Storage GENERAL STORAGE CODE GREEN

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Handling: Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale vapors, spray or mist. Wash thoroughly after handling. Remove and wash clothing before reuse.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources. Keep from freezing.

Section 8 Exposure Controls / Personal Protection

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Physical state: Liquid.

Appearance: Clear, colorless.

Odor: No odor.

pH: N/A

Vapor pressure (mm Hg): <0.01 @ 20°C

Vapor Density (Air = 1): 5.17

Evaporation rate (Butyl acetate = 1): 0.01

Viscosity: N/A

Boiling point: 285°C (545°F) @ 760 mm Hg

Freezing / Melting point: ~7°C (19°F)

Decomposition temperature: N/A

Solubility in water: >10%

Specific gravity (H₂O = 1): 1.126 @ 20°C

Percent volatile (%): 100%

Molecular formula: C₆H₁₄O₄

Molecular weight: 150.20

Section 10 Stability & Reactivity

Chemical stability: Stable. Hygroscopic.

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition and incompatible materials.

Incompatibilities with other materials: Strong oxidizers.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological Information

Effects of overexposure: No adverse health effects expected from inhalation or ingestion. Prolonged contact with skin may cause irritation. Splashing in eye causes irritation with transitory disturbances of corneal epithelium. However, these effects diminish and no permanent injury is expected. Vapors are non-irritating. Exercise appropriate procedures to minimize potential hazards.

ORL-RAT LD50: 17 g/kg

Section 12 Ecological Information

Slightly toxic to aquatic life. The LC50/96-hour values for fish are between 10 and 100 mg/L.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information

UN/NA number: N/A

Shipping name: Not Regulated.

Hazard class: N/A

Packing group: N/A

Exceptions: N/A

Section 15 Regulatory Information

TSCA-listed, EINECS-listed (203-953-2), DSL-listed.

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards.