



Material Safety Data Sheet
1X and 10X Tris Buffered Saline

MSDS# 91569

Section 1 - Chemical Product and Company Identification

MSDS Name: 1X and 10X Tris Buffered Saline
Catalog Numbers: BP2471-1, BP2471-100, BP2471-500, BP2472-1, BP2472-100, BP2472-500
Synonyms: None.

Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
For information in the US, call: 201-796-7100
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

Risk Phrases:
CAS#: 77-86-1
Chemical Name: Tris (hydroxymethyl) aminomethane
%: 0-3
EINECS#: 201-064-4
Hazard Symbols:

Risk Phrases:
CAS#: 7447-40-7
Chemical Name: Potassium chloride
%: <1
EINECS#: 231-211-8
Hazard Symbols:

Risk Phrases: 34 37
CAS#: 7647-01-0
Chemical Name: Hydrochloric acid
%: <3
EINECS#: 231-595-7
Hazard Symbols: C

Risk Phrases:
CAS#: 7647-14-5
Chemical Name: Sodium chloride
%: 5-10
EINECS#: 231-598-3
Hazard Symbols:

Risk Phrases:

CAS#: 7732-18-5
Chemical Name: Water
%: >85-90
EINECS#: 231-791-2
Hazard Symbols:

Text for R-phrases: see Section 16

Hazard Symbols: None listed
Risk Phrases: None listed

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Caution! This is expected to be a low hazard for usual industrial handling. Good laboratory procedures are recommended when handling this compound. May cause eye, skin, and respiratory tract irritation. Target Organs: No data found.

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation.

Ingestion: May cause irritation of the digestive tract. Low hazard for usual industrial handling. The toxicological properties of this substance have not been fully investigated.

Inhalation: May cause respiratory tract irritation. Low hazard for usual industrial handling. The toxicological properties of this substance have not been fully investigated.

Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Wash mouth out with water. Get medical aid if irritation or symptoms occur.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 1; flammability: 0; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. No special precautions indicated.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Tris (hydroxymethyl) aminomethane	none listed	none listed	none listed
Potassium chloride	none listed	none listed	none listed
Hydrochloric acid	2 ppm Ceiling	50 ppm IDLH	5 ppm Ceiling; 7 mg/m3 Ceiling
Sodium chloride	none listed	none listed	none listed
Water	none listed	none listed	none listed

OSHA Vacated PELs: Tris (hydroxymethyl) aminomethane: None listed Potassium chloride: None listed Hydrochloric acid: None listed Sodium chloride: None listed Water: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: colorless

Odor: Not available

pH: 7.4

Vapor Pressure: Not available

Vapor Density: >1.00

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: > 100 deg C (> 212.00°F)

Freezing/Melting Point: Not available

Decomposition Temperature: Not available

Solubility in water: Soluble

Specific Gravity/Density: >1.000

Molecular Formula: Solution

Molecular Weight: 0

Section 10 - Stability and Reactivity

Chemical Stability:	Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid:	Incompatible materials.
Incompatibilities with Other Materials	Water reactive substances (e.g. acetic anhydride, alkyl aluminum chloride, calcium carbide, ethyl dichlorosilane).
Hazardous Decomposition Products	Carbon monoxide, carbon monoxide, carbon dioxide.
Hazardous Polymerization	Has not been reported.

Section 11 - Toxicological Information

RTECS#:	CAS# 77-86-1: TY2900000 CAS# 7447-40-7: TS8050000 CAS# 7647-01-0: MW4025000 MW4031000 CAS# 7647-14-5: VZ4725000 CAS# 7732-18-5: ZC0110000 RTECS: CAS# 77-86-1: Oral, rat: LD50 = 5900 mg/kg; . RTECS: CAS# 7447-40-7: Draize test, rabbit, eye: 500 mg/24H Mild; Oral, mouse: LD50 = 1500 mg/kg; Oral, rat: LD50 = 2600 mg/kg; . RTECS: CAS# 7647-01-0: Inhalation, mouse: LC50 = 1108 ppm/1H; Inhalation, mouse: LC50 = 20487 mg/m ³ /5M; Inhalation, mouse: LC50 = 3940 mg/m ³ /30M; Inhalation, mouse: LC50 = 8300 mg/m ³ /30M; Inhalation, rat: LC50 = 3124 ppm/1H; Inhalation, rat: LC50 = 60938 mg/m ³ /5M; Inhalation, rat: LC50 = 7004 mg/m ³ /30M; Inhalation, rat: LC50 = 45000 mg/m ³ /5M; Inhalation, rat: LC50 = 8300 mg/m ³ /30M; Oral, rabbit: LD50 = 900 mg/kg; . RTECS: CAS# 7647-14-5: Draize test, rabbit, eye: 100 mg Mild; Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, eye: 10 mg Moderate; Draize test, rabbit, skin: 50 mg/24H Mild; Draize test, rabbit, skin: 500 mg/24H Mild; Inhalation, rat: LC50 = >42 gm/m ³ /1H; Oral, mouse: LD50 = 4 gm/kg; Oral, rat: LD50 = 3000 mg/kg; Skin, rabbit: LD50 = >10 gm/kg; . RTECS: CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg; . Tris (hydroxymethyl) aminomethane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65. Potassium chloride - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65. Hydrochloric acid - IARC: Group 3 (not classifiable) Sodium chloride - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65. Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
LD50/LC50:	
Carcinogenicity:	
Other:	See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: Not regulated as a hazardous material

Hazard Class:

UN Number:

Packing Group:

Canada TDG

Shipping Name: Not available

Hazard Class:

UN Number:

Packing Group:

USA RQ: CAS# 7647-01-0: 5000 lb final RQ; 2270 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Not available

Risk Phrases:

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 77-86-1: 1

CAS# 7447-40-7: 1

CAS# 7647-01-0: 1

CAS# 7647-14-5: 0

CAS# 7732-18-5: Not available

Canada

CAS# 77-86-1 is listed on Canada's DSL List

CAS# 7447-40-7 is listed on Canada's DSL List

CAS# 7647-01-0 is listed on Canada's DSL List

CAS# 7647-14-5 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: Not available

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 77-86-1 is not listed on Canada's Ingredient Disclosure List.

CAS# 7447-40-7 is not listed on Canada's Ingredient Disclosure List.

CAS# 7647-01-0 is listed on Canada's Ingredient Disclosure List

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US Federal

TSCA

CAS# 77-86-1 is listed on the TSCA

Inventory.

CAS# 7447-40-7 is listed on the TSCA

Inventory.

CAS# 7647-01-0 is listed on the TSCA
Inventory.

CAS# 7647-14-5 is listed on the TSCA
Inventory.

CAS# 7732-18-5 is listed on the TSCA
Inventory.

Section 16 - Other Information

MSDS Creation Date: 6/13/2000

Revision #9 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.
