

MATERIAL SAFETY DATA SHEET
REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

DATE UPDATED: AUGUST 11, 2015

SECTION 1. ----- CHEMICAL IDENTIFICATION -----

Product Name 1M Tris HCl Buffer, pH 9.0
Product Code(s) SD8146
Recommended Use For Further Manufacturing Use Only
 Not for Human or Animal Drug Use

SECTION 2. ----- HAZARDS IDENTIFICATION -----

GHS – Classification

Classification Skin Irritant 2 Eye Irritant 2

Signal Word Warning



Hazard Statements H315 - Causes skin irritation H319 - Causes serious eye irritation H335 - May cause respiratory irritation H303 - May be harmful if swallowed

Precautionary Statements P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P302+ P352 - IF ON SKIN: Wash with plenty of soap and water P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P309 + P311 - If exposed or you feel unwell: Call a POISON CENTRE or doctor/physician

SECTION 3. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

Chemical Name	EC No.	REACH Reg. No.	CAS-No	Weight %	Classification
Tris (hydroxymethyl)aminomethane	201-064-4	Not available	77-86-1	10-15	Xi;R36/37/38
Hydrochloric acid	231-595-7	Not available	7647-01-0	1-3	T; R23 C; R35 C; R34 Xi; R37

SECTION 4. ----- FIRST-AID MEASURES-----

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Inhalation Move to fresh air. If breathing becomes difficult, give oxygen

Ingestion Clean mouth with water and afterwards drink plenty of water. Call a POISON CENTER or doctor/physician if exposed or you feel unwell.

Notes to Physician Treat symptomatically

SECTION 5. ----- FIRE FIGHTING MEASURES -----

Flammable Properties Not flammable

Flash Point Not determined

Suitable Extinguishing Media Dry chemical, CO2, water spray or regular foam

Hazardous Combustion Products Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact Not sensitive

Sensitivity to Static Discharge Not sensitive

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----

Personal Precautions Avoid contact with skin, eyes and clothing. Use personal protective equipment. Ensure adequate ventilation

Methods for Containment Prevent further leakage or spillage if safe to do so

Methods for Cleaning Up Absorb on sand or vermiculite and place in closed containers for disposal.

SECTION 7. ----- HANDLING AND STORAGE-----

Handling Handle in accordance with good industrial hygiene and safety practice. Protect from light.

Storage Keep container tightly closed in a cool, dry and well-ventilated place.

Incompatible Products Bases. Strong oxidizing agents.

SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrochloric acid 7647-01-0			IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ₃

Engineering Measures

- Showers
- Eyewash stations
- Ventilation systems

Personal Protective Equipment

Eye/Face Protection	Tightly fitting safety goggles.
Skin and Body Protection	Wear protective gloves/clothing
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA Approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

Appearance	Clear, colorless
Odor	No information available
Odor Threshold	No information available
Decomposition Temperature °C	No information available
Freezing Point	No information available
Initial Boiling Point	No information available
Physical State	Liquid
pH	9.0
Flash Point	Not determined
Autoignition Temperature	No data available
Boiling Point/Range	No data available
Melting Point/Range	No data available
Flammability Limits in Air	Upper No data available Lower No data available
Explosive Properties	No information available
Oxidizing Properties	No information available
Evaporation Rate	No data available
MMHG @ 37.8 C	No data available
Vapor Density	No data available
Specific Gravity	No data available
Solubility	No data available
Partition Coefficient (n-octanol/water)	No data available
Viscosity	No information available

SECTION 10. ----- STABILITY AND REACTIVITY -----

Stability	Stable under recommended storage conditions
Incompatible Products	Bases. Strong oxidizing agents.
Conditions to Avoid	None known based on information supplied.
Hazardous Decomposition Products	Carbon oxides.
Hazardous Polymerization	Hazardous polymerization does not occur

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

Acute Toxicity

Product Information Irritating to eye, skin and respiratory system. May be harmful if swallowed.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tris (hydroxymethyl)aminomethane	5900 mg/kg (Rat)		
Hydrochloric acid	700 mg/kg (Rat)	5010 mg/kg (Rabbit)	3124 ppm (Rat) 1 h

Chronic Toxicity**Chronic Toxicity** No known effect based on information supplied.**Target Organ Effects** None known.**SECTION 12. ----- ECOLOGICAL INFORMATION -----****Ecotoxicity**

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Hydrochloric acid		LC50= 282 mg/L Gambusia affinis 96 h		

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----**Waste Disposal Method** Dispose of material in accordance with all federal, state, and local regulations**Contaminated Packaging** Dispose of in accordance with all federal, state and local regulations**SECTION 14. ----- TRANSPORT INFORMATION -----****IATA** Not Regulated**DOT** Not Regulated**SECTION 15. ----- REGULATORY INFORMATION -----****REACH Title VII Restrictions** No information available.

Chemical Name	Dangerous Substances	Organic Solvents	Harmful Substances Whose Names Are to be Indicated on the Label	Pollution Release and Transfer Registry (Class II):	Pollution Release and Transfer Registry (Class I):	Poison and Deleterious Substances Control Law:
Tris (hydroxymethyl)aminomethane	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Hydrochloric acid	>=>=0.1 % weight	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Component	ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA - Harmful Substances Requiring Permission	Toxic Chemical Classification Listing (TCCL) - Toxic Chemicals	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Tris (hydroxymethyl)aminomet hane 77-86-1 (10-15)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Hydrochloric acid 7647-01-0 (1-3)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

International Inventories

TSCA	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Does not comply
PICCS	Complies
AICS	Complies

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Hydrochloric acid	7647-01-0	1-3	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Hydrochloric acid 7647-01-0 (1-3)	5000 lb			X

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Hydrochloric acid	7647-01-0	1-3	Present			

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Hydrochloric acid	5000 lb	5000 lb

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Hydrochloric acid	X	X	X	X	X

International Regulations

Mexico – Grade No information available.

Canada

WHMIS Hazard Class

D2B Toxic materials



SECTION 16. ----- OTHER INFORMATION-----

Issuing Date 13-Aug-2009
Revision Date 11-Aug-2015
Revision Note No information available.
Recommended Restrictions No information available

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS