

MATERIAL SAFETY DATA SHEET

4. FIRST AID MEASURES

INHALATION Move to well ventilated place.
See medical advice immediately.

EYE Immediately flush with plenty of water.
See medical advice immediately.

SKIN Wipe off with dry cloth and wash with mild soap.
See medical advice immediately.

INGESTION See medical advice immediately.

PROTECTION TO FIRST – AIDERS
No data available

NOTE TO PHYSICIAN
Treatment may vary with condition of victim and specifics of incident.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
Flash Point Not applicable

EXTINGUISHING MEDIA
Dry chemical powder, foam or carbon dioxide.

FIRE FIGHTING INSTRUCTIONS
Wear full fire-fighting turn-out gear and respiratory protection.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL Wipe off with dry cloth.

WATER SPILL Contain spilled liquid with sand or earth.
DO NOT use combustible materials, such as sawdust.

7. HANDLING AND STORAGE

HANDLING : Use only in the well-ventilated areas.
Avoid contact with skin or eyes , or clothing.
Avoid inhalation and ingestion.
Avoid high temp. and fire.
Wash thoroughly after handling.

STORAGE : Store in a cool, dry, well-ventilated location.
Keep away from heat, sunlight.
Keep away from children.

MATERIAL SAFETY DATA SHEET

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

OSHA PEL (1994)	
[1,2,3-Propanetriol]	TWA 5 mg/m ³ (respirable fraction)
ACGIH TLV (2003)	
[1,2-Ethanediol]	CL 100 mg/m ³ (H)
[1,2,3-Propanetriol]	TWA 10 mg/m ³
EN LIMIT (2000/39/EN)	
[1,2-Ethanediol]	
eight hours	20 ppm (52 mg/m ³) (skin)
Short-term	40 ppm (104 mg/m ³) (skin)

EXPOSURE CONTROLS

Occupational Exposure Controls

Engineering Controls

Use exhaust ventilation to keep airborne concentration below exposure limits.

Personal Protection

Respiratory Protection

Use with local exhaust ventilation, when in long use.

Hand Protection

Not required, but wear safety gloves, if necessary.

Eye Protection

Not required, but wear safety glasses, if necessary.

Skin Protection

To prevent ANY contact, wear impervious clothing such as gloves, apron, as appropriate.

Environmental Exposure Controls

Not established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Liquid
Odor	None
pH	2 ~ 3
Boiling Point / Boiling Range	No data available
Flash Point	Not applicable
Explosive Properties	No data available
Relative Density (g/cm ³)	1.0 ~ 1.1 g/cm ³
Solubility [Water]	soluble

MATERIAL SAFETY DATA SHEET**10. STABILITY AND REACTIVITY**

CONDITIONS TO AVOID	No data available
STABILITY	No data available
MATERIALS TO AVOID	No data available
HAZARDOUS REACTIONS / DECOMPOSITION PRODUCTS	No data available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity (RTECS : 2004-11)

[1,2-Ethanediol]			
Oral	LD ₅₀ (rat)	4,700	mg/kg
Inhalation	LC ₅₀ (rat)	> 200	mg/m ³ /4H
Skin	LD ₅₀ (rabbit)	9,530	uL/kg
[1,2,3-Propanetriol]			
Oral	LD ₅₀ (rat)	12,600	mg/kg
Inhalation	LCLo (rat)	> 570	mg/m ³ /1H
Skin	LD ₅₀ (rabbit)	> 10	mg/kg

12. ECOLOGICAL INFORMATION

ECOTOXICITY	No data available
BIOACCUMULATIVE POTENTIAL	No data available
OTHER ADVERSE EFFECTS	No data available

13. DISPOSAL CONSIDERATIONS

Comply with all federal,state,EU,national and local regulations.
Do not dump this product into sewers , on the ground or into any body of water.

14. TRANSPORT INFORMATION

UN CLASS	None
UN Packing Group (PG)	None
UN NUMBER	None
Proper Shipping Name	None

MATERIAL SAFETY DATA SHEET**15. REGULATORY INFORMATION**

Refer to any other federal , state , EU , national and local regulations.

OSHA STATUS : This product is hazardous under 29 CFR 1910.1200.

TSCA STATUS : All components on TSCA INVENTORY.

CERCLA REPORTABLE QUANTITY (40 CFR 117,302) :
Not applicable

SARA TITLE : Not applicable

This product is classified as follows ,

[1,2-Ethenediol] : [Xn] R:22 S: (2)

Symbol :	Xn	(Harmful)
Risk Phrase :	22	(Harmful if swallowed)
Safety Advice :	2	(Keep out of the reach of children.)

Please refer to any other EU, national and local measures.

16. OTHER INFORMATION

This information is furnished without warranty, express or implied,
except that it is accurate to the best knowledge of Shachihata Inc.
It relates only to the specific material designated herein, and does not relate to
use in combination with any other material or process.
Shachihata Inc. assumes no legal responsibility for
use or reliance upon this information.