

MATERIAL SAFETY DATA SHEET

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.
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)

[Ethanol]

TWA 1,000ppm (1,900mg/m³)

[Titanium oxide]

TWA 15 mg/m³ (total dust)

ACGIH TLV (2003)

[Ethanol]

TWA 1,000ppm

[1,2-Ethanediol]

CL 100 mg/m³ (H)

[Titanium oxide]

TWA 10 mg/m³

EN LIMIT (2000/39/EN)

[1,2-Ethanediol]

eight hours 20 ppm (52 mg/m³) (skin)Short-term 40 ppm (104 mg/m³) (skin)**EXPOSURE CONTROLS**

Occupational Exposure Controls

Engineering Controls

Use exhaust ventilation to keep airborne concentration below exposure limits.

Personal Protection

Respiratory Protection

Not required,

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

No data available

Boiling Point / Boiling Range

No applicable

Flash Point

No applicable

Explosive Properties

No applicable

Relative Density (g/cm³)1.0 ~ 1.4 g/cm³

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)

[Ethanol]

Oral	LD ₅₀ (rat)	7,060 mg/kg
Inhalation	LC ₅₀ (rat)	20,000 ppm/10H
Skin	LD ₅₀ (rabbit)	6,300 mg/kg

[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

[Titanium oxide]

Oral	TDL ₀ (rat)	60 mg/kg
Inhalation	TCL ₀ (rat)	50 mg/ m ³ /6H/13W-I

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 : Not applicable

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 ,

[Ethanol] :	[F]	R:11	S; (2-)7-16
[1,2-Ethanediol] :	[Xn]	R:22	S; (2)
[Ethanol,2-(2-butoxyethoxy)-]:	[Xi]	R:36	S; (2-)24-26
[Ethanol,2,2'-iminobis-] :	[Xn]	R:22-38-41-48/22	S; (2-)26-36/37/39-46

Symbol :	F	(Highly Flammable)
	Xi	(Irritant)
	Xn	(Harmful)
Risk Phrase :	11	(Highly flammable)
	22	(Harmful if swallowed)
	36	(Irritating to eyes)
	38	(Irritating to skin)
	41	(Risk of serious damage to eyes)
	48/22	(Harmful: danger of serious damage to health by prolonged exposure if swallowed)
Safety Advice :	2	(Keep out of the reach of children.)
	7	(Keep container tightly closed.)
	16	(Keep away from sources of ignition – No smoking.)
	24	(Avoid contact with skin.)
	26	(In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.)
	36/37/39	(Wear suitable protective clothing, gloves and eye/face protection.)
	46	(If swallowed, seek medical advice immediately and show this container or label.)

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

16. OTHER INFORMATION

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