

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006

Pentaerythritol Series

Revision Date: 01/07/2019

MSDS Record Number: CSSS-TCO-010-125248

Section 1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Identification on the label/Trade name: Pentaerythritol / Di Pentaerythritol / Tri Pentaerythritol

Additional identification: 2,2-bis(hydroxymethyl)-3-propanediol

Identification of the product: CAS# 115-77-5; EC# 204-104-9

Index Number: Not available

REACH registration No.: 01-2119473985-20-xxxx

1.2 Relevant identified uses of the substance and uses advised against:

1.2.1 Identified uses:

Not available.

1.2.2 Uses advised against:

Not available.

1.3 Details of the supplier of the safety data sheet:

Supplier(Only representative): Formula Chemicals Co. Ltd.

Supplier(Manufacturer): Formula Chemicals Co. Ltd.

Address: 18F., No.178, Dayi Rd., Shulin Dist., New Taipei City 238, Taiwan (R.O.C.)

Contact person(E-mail): john.lee@formula-chemicals.com

Telephone: +886-2-26685339

Fax: +886-2-26685610

1.4 Emergency telephone Number:

+886-2-26685339

Available outside office hours? YES ☐ NO ☒

Section 2 Hazards Identification

2.1 Classification of the substance/mixture:

2.1.1 Classification:

The substance is classified as following according to REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard codes
N/A	N/A

For full text of H- phrases: see section 2.2.

2.2 label elements:

Hazard Pictograms: No hazard pictogram is used.

Signal Word(S): No signal word is used.

Hazard Statement: Not applicable.

Precautionary statement: Not applicable.

2.3 Other hazards:

Not available.

Section 3 Composition/information on ingredients

Substance/Mixture: Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration
Pentaerythritol	01-2119473985-20-xxxx	115-77-5	204-104-9	≥99%

Section 4 First aid measures

4.1 Description of first aid measures:

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

Not required, but get fresh air for personal comfort.

4.1.2 In case of skin contact:

Not required, but wash exposed skin with soap and water for hygienic reasons.

4.1.3 In case of eyes contact:

Not required, but rinse opened eye under running water for personal comfort.

4.1.4 In case of ingestion:

Not required, but if large amount been ingested get medical attention.

4.2 Most important symptoms and effects, both acute and delayed:

The product is not classified as harmful to human health effect.

4.3 Indication of any immediate medical attention and special treatment needed:

If skin irritation or rash occurs, get medical advice/attention.

Section 5 Fire-Fighting measures

5.1 Extinguishing media:

Suitable extinguishing media:

All types of extinguishing media are suitable. Use fire extinguishing methods suitable to surrounding conditions.

Unsuitable extinguishing media:

Water with full jet.

5.2 Special hazards arising from the substance or mixture

Not available.

5.3 Advice for firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel:

Remove all ignition sources. Avoid further dust formation. Use respiratory protective device with dust filter. Refer to section 8 of SDS for personal protection details.

6.1.2 For emergency responders:

Wear an appropriate NIOSH/MSHA approved respirator if dust is generated.

6.2 Environmental Precautions:

Do not allow to enter sewers/surface or ground water.

6.3 Methods for Containment and Cleaning up:

Cover to prevent dust formation. Pick up mechanically. Prevent formation of dust. Use non-sparking tools and ex-proof equipment. Clean area with water.

6.4 Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

Section 7 Handling and storage

7.1 Precautions for safe handling:

7.1.1 Protective measures:

Dust can form an explosive mixture with air. Any unavoidable deposit of dust must be regularly removed. Provide suction extractors if dust is formed. Ensure good ventilation/exhaustion at the workplace. Keep away from ignition sources. Avoid handling which can create static electrical discharges. Comply with Directive 94/9/EC concerning equipment and protective systems intended for use in potentially explosive atmospheres and, Directive 1999/92/EC regarding minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres.

7.1.2 Advice on general occupational hygiene:

Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities:

No specific conditions for safe storage.

7.3 Specific end use(s):

Not applicable.

Section 8 Exposure Controls/Personal Protection

8.1 Control parameters:

8.1.1 Occupational exposure limits:

Substance	EINECS No.	CAS No.	Occupational Exposure Limit Value (8-hour reference period)		Occupational Exposure Limit Value (15-minute reference period)		
			ppm	mg/ m ³	ppm	mg/ m ³	Notes
Pentaerythritol	204-104-9	115-77-5	-	-	-	-	-
total inhalable dust			-	10	-	20	-
respirable dust			-	4	-	-	-

8.1.2 Additional exposure limits under the conditions of use:

Not available.

8.1.3 DNEL/DMEL and PNEC-Values:

Workers - Hazard via inhalation route-Systemic effects-Long term exposure-DNEL (Derived No Effect Level): 11.8 mg/m³
 Workers - Hazard via dermal route- Systemic effects-Long term exposure-DNEL (Derived No Effect Level): 3.3 mg/kg bw/day
 General Population - Hazard via inhalation route- Systemic effects-Long term exposure-DNEL (Derived No Effect Level): 2.9 mg/m³
 General Population - Hazard via dermal route- Systemic effects-Long term exposure-DNEL (Derived No Effect Level): 1.7 mg/kg bw/day
 General Population - Hazard via oral route- Systemic effects-Long term exposure-DNEL (Derived No Effect Level): 1.7 mg/kg bw/day
 PNEC aqua (freshwater): 1 mg/L
 PNEC aqua (marine water): 0.1 mg/L
 PNEC STP: 50 mg/L

8.2 Exposure controls:

8.2.1 Appropriate engineering controls:

Keep dust levels below National Occupational Exposure Limits through local exhaust ventilation. Use respiratory protective device with dust filter (P3) in case of insufficient ventilation.

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection:

Goggles recommended during refilling.

Hand protection:

Protective gloves or protective skin cream.

Body protection: Protective work clothing.

Respiratory protection: Use respiratory protective device with dust filter (P3) in case of insufficient ventilation.

Thermal hazards: Wear suitable protective clothing to prevent heat.

8.2.3 Environmental exposure controls: Avoid discharge into the environment.

According to local regulations, Federal and official regulations.

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Powder
Color:	White
Odor:	Mild
Odor threshold:	Not available
pH:	Not available
Melting point/range (°C):	258.4 °C
Boiling point/range (°C):	369 °C
Flash point (°C):	Not available
Evaporation rate:	Not available
Flammability limit - lower (%):	Not available
Flammability (solid, gas):	Non-flammable
Ignition temperature (°C):	Not available
Upper/lower flammability/explosive limits:	Not available
Vapour pressure (20°C):	0 Pa
Vapour density:	Not available
Relative density:	1.37 (20°C)
Specific gravity:	Not available
Water solubility (g/l):	62 g/L
n-Octanol/Water (log Po/w):	Log Pow = -1.7 (22 °C)
Auto-ignition temperature:	> 400 °C
Decomposition temperature:	Not available
Viscosity, dynamic (mPa.s):	Not available
Explosive properties:	Not available
Oxidising properties:	Not available
Molecular Formula:	C ₅ H ₁₂ O ₄
Molecular	Weight: 136.15

9.2. Other information:

Fat solubility(solvent– oil to be specified)	Not available
etc:	

Surface tension: 71 mN/m (20 °C)
Dissociation constant in water(pKa): Not available
Oxidation-reduction Potential: Not available

Section 10 Stability and reactivity

10.1 Reactivity: Risk for dust explosion, avoid handling which can create static electrical discharges.

10.2 Chemical stability: The substance is stable under normal pressure and temperature.

10.3 Possibility of hazardous reactions: No dangerous reactions known.

10.4 Conditions to avoid: Incompatible materials. Avoid fire or high temperature.

10.5 Incompatible materials: Oxidants, strong acids, acid chlorides, acid anhydrides.

10.6 Hazardous decomposition products: No dangerous decomposition products known.

Section 11 Toxicological information

11.1 Information on toxicological effects:

Acute toxicity:

LD50(Oral, Rat): > 5110 mg/kg bw
LD50(Dermal, Rabbit): > 10000 mg/kg bw
LC50(Inhalation, Rat): > 5.15 mg/L air (analytical, 4h)

Skin corrosion/Irritation: Not classified
Serious eye damage/irritation: Not classified
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
STOT- single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified

Section 12 Ecological information

12.1 Toxicity:

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	> 100 mg/L	96h	Fish	OECD 203	N/A	N/A
EC50	> 1000 mg/L	24h	Daphnia	OECD 202	N/A	N/A
EC50	N/A	72h	Algae	OECD 201	N/A	N/A

12.2 Persistence and degradability: Readily biodegradable.

12.3 Bioaccumulative potential: Not available.

12.4 Mobility in soil: Not available.

12.5 Results of PBT&vPvB assessment: The substance is not PBT / vpvb.

12.6 Other adverse effects: Not available.

Section 13 Disposal considerations

13.1 Waste treatment methods: The material should be disposed of by incineration in a chemical incinerator in compliance with national and regional requirements.

Section 14 Transport information

	Land transport(ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN-Number	Not regulated	Not regulated	Not regulated
UN Proper shipping name	Not regulated	Not regulated	Not regulated
Transport hazard Class	Not regulated	Not regulated	Not regulated
Packaging group	Not regulated	Not regulated	Not regulated
Environmental hazards	No	No	No
Special precautions for user	See section 2.2	See section 2.2	See section 2.2
Transport in bulk according to Annex II of Marpol and the IBC Code	Not regulated	Not regulated	Not regulated

Section 15 Regulation information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Relevant information regarding authorization: Not applicable.

Relevant information regarding restriction: Not applicable.

Other EU regulations: Employment restrictions concerning young person must be observed.
For use only by technically qualified individuals.

Other National regulations: Not applicable

15.2 Chemical Safety Assessment has been carried out? YES ☐ NO ☒

Section 16 Other information

16.1 Indication of changes:

Version 1.0 Amended by (EU) 2015/830

16.2 Training instructions:

Not applicable.

16.3 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.4 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.