




VITUSA PRODUCTS™
INCORPORATED
MATERIAL SAFETY DATA SHEET

VITUSA PRODUCTS, INC.

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Product: PENTAERYTHRITOL M

 Ercros	ERCROS CENTRO DE TORTOSA	FICHA DE SEGURIDAD FICHA DE SEGURIDAD (MSDS) PENTA-M (Inglés)	C_07_P_FS_001 Edición : 3 Página : 1 de : 5
Copia nº : COPIA IMPRESA NO CONTROLADA		Receptor :	Departamento :
Realiza : ALMUDEVE MESTRE, MARIA 30/09/2005	Revisa : MUÑOZ, JOSE MARIA 18/10/2005	Aprueba : RODRIGUEZ, SANTIAGO 24/10/2005	

1. IDENTIFICATION OF SUBSTANCE/PREPARATION

a) Identification of material:

1.1 Commercial name:

Pentaerythritol M

1.2 Chemical name:

2,2-Bis (hydroxymethyl)-1,3-Propanediol;
Tetramethylolmethane;
Tetrahydroxymethylmethane

1.3 Chemical formula:

C₅H₁₂O₄

1.4 CAS no.

115-77-5

1.5 EINECS no.

204-104-9

b) Use of substance or preparation:

Chemical intermediate

c) Manufacturer: S. A. POLIALCO

Office:

Passeig Sant Joan 15
08010 Barcelona (Spain)
Tel. (34) 933 069 300
Fax (34) 932 321 460
E-mail: info@polialco.es

Plant::

Polígono Industrial Baix Ebre
43500 Tortosa (Spain)
Tel. (34) 977 454 022
Fax (34) 977 597 101

d) Emergency telephone:

(34) 977 454 022 and (34) 933 069 300

2. COMPOSITION / INFORMATION ON INGREDIENTS

Dangerous ingredients	% w/w	Danger classification	Risk phrases
None	-----	-----	-----

3. IDENTIFICATION OF RISKS:

Risks for human beings: None

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4. FIRST AID MEASURES

	Symptoms and effects	Actions to be taken
4.1. Contact with the skin	May cause irritation.	Wash with soap and water
4.2. Contact with the eyes	May cause irritation.	Wash with plenty of water
4.3. Ingestion	May cause a temporary increase of glycemia.	In case of doubt call the doctor.
4.4. Inhalation	Non known	None

5. MEASURES IN CASE OF FIRE

5.1. Extinguishing media:

Water CO2 Foam Dry powder

5.2. Not to be used:

None known.

5.3. Special risks resulting from exposure to the substance or product, combustion products or gases.

In case of exposure to vapours or combustion products, use full protective, self-breathing equipment approved by NIOSH.

5.4. Special protective equipment for fire-fighters personnel:

Self-breathing equipment and protective clothes preventing contact with the skin and eyes.

6. MEASURES IN CASE OF ACCIDENTAL LEAK

6.1 Personal precautions:

Avoid dust formation.

6.2 Environmental precautions

None special, as product is non-toxic.

6.3 Cleaning up methods

Standard, such as emptying, sweeping, and collecting product into a suitable container for disposal. Dispose of according to current regulations.

7. HANDLING AND STORAGE

7.1. Handling:

The relevant regulation on protection against risk of chemical agents in the working places must be taken into account. Product is not toxic, therefore no special measures for its handling are necessary. Do not eat, drink or smoke while handling it. Dust formation may create air/dust explosive mixtures. The explosive characteristics of dust should be taken into account for process and equipment design.

7.2. Storage:

The relevant regulation on chemical products storage must be taken into account
Store in a dry, cool and well ventilated place.
Avoid accumulation of electrostatic charges.

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8. CONTROL TO EXPOSURE/INDIVIDUAL PROTECTION

8.1. Recommended control equipment:

See section 8.3.

8.2. Control parameters:

EXPOSURE LEVELS

Ingredients	% w/w	OSHA PEL TWA	ACGIH TLV TWA
Pentaerythritol (115-77-5)	98 min	15 mg/m ³ , total dust 5 mg/m ³ , breathing fraction	10 mg/m ³ , total dust 4 mg/m ³ , breathing fraction
Dipentaerythritol (126-58-9)	2 max	N.D.	N.D.
Bis-pentaerythritol monoformal (PMF). (6228-26-8)	2 max	N.D.	N.D.
Pentaerythritol Cyclic monoformal (CMF) (6228-25-7)	0.5 max	N.D.	N.D.

8.3. Procedures:

Collective and personal protective measures with a view to reduce exposure to be evaluated and implemented in the working place.

8.4. Recommended individual protection:

8.4.1 Breathing protection

If there is dust, use self-contained breathing equipment or P1 filter-mask.

8.4.2. Hand protection

Special protection is not required, but if necessary, use neoprene or rubber gloves.

8.4.3. Eye protection

Use goggles.

8.4.4. Skin protection

Special measures are not necessary.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Aspect:	Crystalline, white powder
9.2. Odour:	Odourless
9.3. pH (10 % solution):	4.5 - 5.5
9.4. Boiling point/interval:	276 °C at 30 mm Hg
9.5. Melting point/interval:	261/262 °C
9.6. Flash point:	260°C
9.7. Flammability (solid, gas):	N.D.
9.8. Self-flammability:	N.D.

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9. PHYSICAL AND CHEMICAL PROPERTIES (CONTINUED)

9.9. Explosion risk:	
9.9.1. Min. ignition temperature of dust	450 °C
9.9.2. Min. explosive concentration in air	30 g / m ³
9.9.3. Min. ignition energy	0.01 Joule
9.10. Comburent properties:	N.A.
9.11. Vapour pressure	2.12 x 10 ⁻⁵ cm Hg at 106.4 °C to 52.4 x 10 ⁻⁵ cm Hg at 135.1 °C
9.12. Density:	1.396 g / cm ³
9.13. Solubility-Hydrosolubility :	Soluble in water (7.23 g/100 g H ₂ O), glycerol and formamide. Practically insoluble in almost all organic solvents.
9.14. Liposolubility, oil solvent:	Insoluble in oils and fats
9.15. N-octanol-water coefficient:	N.D.
9.16. Viscosity	N.D.
9.17. Vapour density	N.D.
9.18. Evaporation speed	N.D.

10. STABILITY AND REACTIVITY

10.1. Stability:	Product is stable in good storage conditions.
10.2. Conditions to avoid:	Flames and fire.
10.3. Matters to avoid:	Nitric acid, oxygen, hydrogen peroxyde, and other strong oxydant agents.
10.4. Dangerous decomposition products	Carbon monoxyde.

11. TOXICOLOGICAL INFORMATION

11.1. Oral toxicity DL 50 Rodent rat:	19,500 mg/kg
11.2. Oral toxicity DL 50 Rodent mouse:	25,500 mg/kg
11.3. Oral toxicity DL 50 Rodent rabbit:	18,500 mg/kg
11.4. Oral toxicity DL 50 Rodent guinea pig:	11,300 mg/kg
11.5. Sensibility:	N.D.
11.6. Carcinogenity:	N.D.
11.7. Mutagenicity:	N.D.
11.8. Reproductive toxicity:	N.D.
11.9. Narcosis:	N.D.
11.10. Other:	---

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12. ECOLOGICAL INFORMATION

12.1. General information on substance behaviour in the environment	Easy biological decomposition.
12.2. Mobility:	N.D.
12.3. Persistence and degradability:	N.D.
12.4. Bioaccumulation potential:	Low
12.5. Aquatic toxicity:	N.D.
12.6. Other:	
Theoretical DQO	1.41 g O ₂ /g pentaerythritol
Theoretical COT	0.44 g C / g pentaerythritol

13. CONSIDERATIONS ON DISPOSAL

13.1. Disposal of used packagings

The relevant regulations on packaging and waste disposal must be taken into account. Used packagings can be eliminated at an authorised dump or incinerated. They can be recycled washing them with water. Do not use without previous washing.

13.2. Regulations on waste disposal

Product should be eliminated according to national or local regulations for industrial waste.

14. TRANSPORT INFORMATION

14.1. Labelling:	N.A.
14.2. Substance identification:	Non obligatory
14.3. ADE/RID:	N.A.
14.4. IMDG:	N.A.
14.5. ICAD/IATA:	N.A.
14.6. Other:	---

15. INFORMATION ON CURRENT REGULATIONS

15.1. CEE no.:	N.A.
15.2. Hazard symbol:	N.A.
15.3. Toxic:	No
15.4. R and S phrases:	

16. OTHER INFORMATION

N.A. = non applicable

N.D. = non defined

The information herein is given in good faith and to the best of our knowledge at the current date. The accomplishment of the instructions herein does not exempt the user from following the legal, reglamentary and administrative regulations relative to product, environmental safety and hygiene, which are of user's own responsibility. In case of mixture with other substances, ensure that other risks are not generated.

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16. OTHER INFORMATION (CONTINUED)

Motivos de las Ediciones

Nº Edición	Fecha	Motivo
3	24/10/2005	MODIFICACION TLV'S
2	29/04/2004	INCLUIR DIPENTA, PMF Y CMF.
1	18/04/2001	Inicial

Documentos Asociados:

Código	Documento
C_07_P_MC_000	REVISION DE CONTRATOS Y PEDIDOS DE CLIENTE

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