PENTAERYTHRITOL
HEALTH AND SAFETY DATA SHEET

1. Identification of the Substance / Preparation and the Company / Undertaking

Product Name
Pentaerythritol

Chemical name/synonyms
Tetrakis (hydroxymethyl); 2,2 Bis (hydroxymethyl)-1,3-propanediol

Catalog Numbers
AC129870000, AC129870010, AC129872500 ACC#93708

Supplier
MK Import/Export Inc.

2. Composition / Information on Ingredients

Chemical Nature of the Substance / Preparation
The product contains greater than 99.9 percent (%) borax pentahydrate Na₃B₄O₇·5H₂O

Components

<table>
<thead>
<tr>
<th>CAS-N°</th>
<th>EINECS</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>115-77-5</td>
<td>204-104-9</td>
<td>Pentaerythritol</td>
</tr>
</tbody>
</table>

3. Hazards Identification

Emergency overview:
Appearance solid white. Caution: May cause eye, skin, and respiratory irritation. The toxicological properties of this material have been fully investigated.
Inhalation
May cause irritation effects to nose and throat may occur from inhalation. The toxicological properties of this material have been fully investigated.

Eye contact
May cause irritation to eyes

Skin contact
May cause irritation to skin.

Ingestion
May cause irritation to digestive tract. The toxicological properties of this material have been fully investigated.

Chronic
None

4. First aid measures

Skin contact
Flush skin with plenty of water for 15 minutes, while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Eye contact
Use eye wash fountain or fresh water to cleanse eye for 15 minutes occasionally lifting the upper and lower eyelid. Seek medical attention.

Inhalation
Remove from exposure to fresh air. Get medical attention for any breathing difficulty or if cough or other symptoms appear.

Ingestion
If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give an unconscious person anything by mouth. Get medical aid.

5. Fire-fighting measures

General information
As in any fire wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

Extinguishing media
Use water spray, dry chemical, carbon dioxide, or chemical foam.

Flash Point: 240C (464 deg F)
Autoignition Temperature: 490 deg C (914 deg F)
Explosion Limits: Not available
NFPA Rating (estimated) Health 1 Flammability 1 Instability 0

6. Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions.

7. Handling and Storage
Handling: Wash thoroughly after handling. Use adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin and clothing. Keep container tightly closed. Avoid ingestion and inhalation.
Storage: Store in a tightly closed container, store in a cool, dry, well ventilated area, away from incompatible substances.

8. Exposure controls / Personal protection

Engineering Controls:
Use adequate ventilation to keep airborne concentrations low.

<table>
<thead>
<tr>
<th>Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA-Final PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentaerythritol</td>
<td>10 mg/m3 TWA</td>
<td>10 mg/m3 total dust</td>
<td>15 mg/m3 TWA total dust</td>
</tr>
<tr>
<td></td>
<td>5mg/m3 TWA respirable Dust</td>
<td>5mg/m3 TWA respirable dust</td>
<td></td>
</tr>
</tbody>
</table>

OSHA Vacated PELS 15mg/m3 TWA (total dust) 5mg/m3 TWA (respirable dust)

Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations. In 29 CFR 1910.133 or European standard EN166.
Skin: Wear appropriate protective clothing to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European standard EN149
Approved respirator limits are exceeded if irritation or other symptoms are experienced.

9. Physical and Chemical Properties

General information
Physical state: Solid
Appearance: White
Odour: odourless
Molecular weight: 136.15
Molecular formula: C5H1204
Specific gravity: Not available
Freezing/Melting point: 255-259 deg C
Boiling point: 286 deg C @30.00 mm Hg
Evaporation Rate: Not available
Explosion hazard: Non explosive
Viscosity: Not available
Solubility in water: 1 g/18 ML Water (15C)
Vapour pressure: 1 mm Hg @20C
Vapor Density: Not available
pH: Not available

10. Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to avoid: Incompatible materials, dust generation.

Incompatible materials and conditions to avoid:
Strong oxidizing agents, strong acids, acid chlorides, acid anhydrides-thiophosphoryl chloride.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide
Hazardous Polymerization: Will not occur.
11. Toxicological information

RTECS#  
CAS#  
115-77-5: RZ2490000  
LD50/LC50  
CAS# 115-77-5  
Oral mouse: LD50=25500 mg/kg  
Oral mouse: LD50=18500 mg/kg  
Oral rabbit: LD50=18500 mg/kg  
Oral rabbit: LD50=18500 mg/kg  
Oral rat: LD50=19500 mg/kg  
Oral rat: LD50=18500 mg/kg  

Carcinogenicity  
CAS#115-77-5 Not listed by ACGIH, IARC, NTP or CA Prop 65  

Epidemiology: No data  
Teratogenicity: No data  
Reproductive Effects: No data  
Neurotoxicity: No data  
Mutagenicity: Ames test Negative  
Other Studies:

12. Ecological information  

ECOTOXICITY –No data available  
ENVIRONMENTAL–No information available  
PHYSICAL–No information available  
Fish toxicity  
LC>5000 mg/1/48H Leuciscus idus Daphniotoxicity: EC:38900 mg/1/24H Daphnia magna Algae-toxicity: EC3:16500 mg/1/7D Scenedesmus subspicatus Bacteria-toxicity: EC10:18200 mg/1/18H Pseudomonas putida  
COD=1230 mg 02/g

13. Disposal considerations  

Chemical was generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.  
RCRA P-Series: None Listed  
RCRA U-Series: None Listed

14. Transport information  

Shipping Name  
DOT  
Not regulated as a hazardous material  
Canada TDG  
No information available

15. Regulatory information  

US FEDERAL  
TSCA CAS# 115-77-5 is listed on the TSCA inventory
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules:
None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs.
None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.

SARA Codes
CAS# 115-77-5: immediate, fire

Section 313
No chemicals are reportable under Section 313.

Clean Air Act
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.

Clean Water Act
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic pollutants under the CWA.

OSHA
None of the chemicals in this product are listed highly hazardous by OSHA.

STATE
CAS# 115-77-5 can be found on the following states right to know lists: New Jersey, Pennsylvania, Minnesota, and Massachusetts.

California Prop 65
California No Significant Risk Level: None of the chemicals in this product are listed.

Chemical inventory listing
- WGK Water Danger Protection 115-77-5: 1
- Canadian DSL 115-77-5
- Canada WHMIS not available

S Phrases: S 24/25 Avoid contact with skin and eyes.

16. Other information

Revision Date 11/20/2008

All information presented herein is given in good faith and is based on sources and tests considered to be reliable, but cannot be guaranteed, it is the user's full responsibility to accept risk for the safety, toxicity, handling, storage as well as to determine the suitability of the product for a specific purpose. We make no warranty as to the results to be obtained in using this product; therefore all risks must be assumed by the user.