



**SAFETY DATA SHEET**

Revision: 04  
Revision date: 05/99

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**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION**

**Name:** Pure Terephthalic acid  
**Alternative Names:** 1,4-Benzene dicarboxylic acid, PTA

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

INGREDIENT(S)	% weight	CAS No.	EC-No.
Terephthalic acid	100	100-21-0	202-830-0

**3. HAZARDS IDENTIFICATION**

Group A dust. The material can form flammable dust clouds in air.  
Low systemic toxicity. Practically non-irritant to skin, eyes and respiratory system.  
Terephthalic acid when dosed to rats at high levels has caused the formation of bladder stones. These have been associated with bladder tumours. This effect is unlikely to occur in humans because the levels used and the route of administration are inappropriate to foreseeable conditions of use.

**4. FIRST-AID MEASURES**

Inhalation : Remove patient from exposure.  
Obtain medical attention if ill effects occur.  
Skin Contact : Remove contaminated clothing. Wash skin with water.  
Obtain medical attention if ill effects occur.  
Eye Contact : Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes.  
Obtain medical attention.  
Ingestion : Do not induce vomiting. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink.  
Obtain medical attention.

**Further Medical Treatment**

Unlikely to be required but if necessary treat symptomatically.

Information in this datasheet is believed to be accurate and is given in good faith, but it is for the user to satisfy himself/herself of the suitability for their own particular purpose.



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**5. FIRE-FIGHTING MEASURES**

Group A dust. The material can form flammable dust clouds in air. Combustion will evolve toxic and irritant vapours.

Extinguishing Media : dry powder , foam or water fog. Do not use water jet.

Fire Fighting Protective Equipment :

A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

**6. ACCIDENTAL RELEASE MEASURES**

Clear up spillages. Transfer to a container for disposal or recovery. Caution - spillages may be slippery.

**7. HANDLING AND STORAGE**

**7.1 HANDLING**

Avoid contact with eyes. Avoid prolonged skin contact. Control dust formation. Atmospheric levels should be controlled in compliance with the occupational exposure limit.

**Process Hazards**

High voltage static electricity build up is possible when handling, therefore continuous earthing of equipment essential. The atmosphere of any silo or pneumatic transfer equipment where dust explosions could occur should be blanketed with inert gas to below 10% oxygen level.

**7.2 STORAGE**

Take precautionary measures against static discharges.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely. Good working practice suggests gloves and goggles should be worn.

**Occupational Exposure Limits:**

OES (EH40/99)	LTEL 8hr TWA ppm mg/m <sup>3</sup>	STEL 15 min. ppm mg/m <sup>3</sup>	Notes
Terephthalic acid (as total inhalable dust)	10		§34
DuPont's AEL* 1999	8 & 12 h TWA ppm mg/m <sup>3</sup>	15 min TWA ppm mg/m <sup>3</sup>	
Nuisance dust	non established		



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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION (cont)**

\* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Form : free flowing powder  
Colour : white  
Odour : almost odourless  
pH (Value) : No data.  
Melting Point (Deg C) : 425 in sealed tube  
Flash Point (Deg C) : Not applicable.  
Flammable Limits (Lower) (%v/v) : 40  
Flammable Limits : g/m3  
Explosive Properties : Group A dust. The material can form flammable dust clouds in air.  
max. rate of pressure rise : 45500kPa/s  
max explosion pressure : 790kPa  
Oxidising Properties : No data.  
Vapour Pressure (Pascals) : 0.00000003 at 10 Deg C  
Density (g/ml) : 1.5  
Solubility (Water) : insoluble (15mg/l at 10 Deg C  
Partition Coefficient : log P n-octanol/water: 1.2 - 2  
Flammable Powder Class : A  
Minimum Ignition Temperature (Deg C) : 500  
Minimum Ignition Energy (mJ) : 50  
Bulk Density (g/ml) : 1.12  
Sublimation temperature: 300 Deg C

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**10. STABILITY AND REACTIVITY**

Hazardous Reactions : Keep away from strong oxidising agents.

Hazardous Decomposition Product(s) : None known.

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**11. TOXICOLOGICAL INFORMATION**

Inhalation : High concentrations of dust may be irritant to the upper respiratory tract.

Skin Contact : Non-irritant following repeated applications to rat skin.  
Unlikely to cause skin irritation in man.  
May cause physical abrasion in contact with skin.  
Unlikely to be hazardous by skin absorption. Dermal Median Lethal Dose > 2000 mg/kg (rabbit).  
It is not a skin sensitiser.



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**11. TOXICOLOGICAL INFORMATION (cont)**

**Eye Contact** : Slight/mild irritant to rabbit eyes.  
May cause physical abrasion in contact with eyes.  
Permanent damage is unlikely.

**Ingestion** : Low oral toxicity.  
Oral Median Lethal Dose >6400mg/kg (rat).

**Long Term Exposure** : Inhalation studies in animals have shown that  
repeated exposures produce no significant effects.

Terephthalic acid when dosed to rats at high levels has been associated with bladder tumours. No effects were observed below a 1% level in the diet. Further work has demonstrated that the tumours are directly related to bladder stone formation which in turn is caused by the supersaturation of the urine of rats fed very high doses of terephthalic acid. This effect is unlikely to occur in humans because the levels used and the route of administration are inappropriate to foreseeable conditions of use. There is no evidence of mutagenic or clastogenic potential.

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**12. ECOLOGICAL INFORMATION**

**Environmental Fate and Distribution**

Solid with low volatility.  
The substance is essentially insoluble in water.  
The substance has low potential for bioaccumulation.

**Persistence and Degradation**

The substance is substantially biodegradable.  
There is evidence of rapid degradation in water.  
Ready Biodegradation: > 70%.  
Inherent Biodegradation: >90%.

**Toxicity**

Low toxicity to aquatic organisms.  
LC50 (rainbow trout) (96 hour) (semi-static) 798-1640 mg/l  
EC50 (Daphnia magna) (48 hour) > 980mg/l

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**13. DISPOSAL CONSIDERATIONS**

Bury on an authorised landfill site or incinerate under approved controlled conditions.  
Disposal should be in accordance with local, state or national legislation.

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**14. TRANSPORT INFORMATION**

Not Classified as Dangerous for Transport.

UK TANKER LABELLING - NON-HAZARDOUS CHEMICAL(S)

Emergency Action Code : 2{Z}

Warning Phrase : NONE

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**15. REGULATORY INFORMATION**

Not Classified as Dangerous for Supply/Use.

Not Classified as Dangerous for the Environment  
(Aquatic).

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**16. OTHER INFORMATION**

This data sheet was prepared in accordance with Directive 93/112/EC.

Use : raw material

The following sections contain revisions or new statements: 2, 8,

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