

Material Safety Data Sheet

According to 91/155 EEC(2001/58 EC)

Printing date: 12.01.2007

Reviewed on: 12.01.2007

1 Identification of substance:

Product details:**Trade name:** Hexahydrophthalic Anhydride (HHPA)**Application of the substance / the preparation**Hardening agent/ Curing agent
for epoxide resins**Supplier/Manufacturer:**Penpet Petrochemical Trading GmbH
Merkur-Park
Sieker Landstrasse 126
22143 Hamburg
Germany
Tel: +49 40 675 799 0
Fax: +49 40 675 799 99 / 88**Information department:** see above**Emergency information:** National Poisons Information Centre Tel.: +44 (0)870 6006266

2 Composition/Data on components:

Chemical characterization:**CAS No. Description:**

85-42-7 cyclohexane-1,2-dicarboxylic anhydride

Identification number(s):**EINECS Number:** 201-604-9**EU Number:** 607-102-00-X

3 Hazards identification

Hazard description:

Xn Harmful

Information pertaining to particular dangers for man and environment:

Mainly resorbed via respiration tract.

R 41 Risk of serious damage to eyes.

R 42/43 May cause sensitisation by inhalation and skin contact.

Classification system:

The classification was made according to the latest editions of the EU-lists, and expanded using company data and specialized literature.

4 First aid measures

General information: Immediately remove any clothing soiled by the product.**After inhalation:**

Remove victim from contaminated area. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration. Call a doctor.

In case of unconsciousness, place patients on their side in a stable position for transportation.

After skin contact:

Remove soiled clothes and shoes.

Clean effected skin thoroughly with water and a mild cleansing agent. No residues shall remain on the skin.

After contact with molten substance cool with cold water immediately.

Seek medical treatment.

After eye contact:

Protect unharmed eye.

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Rinse the eyes with open eyelids for 10 - 15 minutes with water. Then consult an eye specialist immediately.

- **After swallowing:**

Rinse out mouth and then drink plenty of water.

Administer medicinal carbon

Give some milk.

Induce vomiting and call for medical help.

Hold the head of the casualty low with the body in a prone position in order to avoid aspiration.

- **Information for doctor:**

- **Treatment:**

Symptomatic treatment

In cases of irritation to the lungs, initial treatment with Dexametason metered aerosol.

5 Fire fighting measures

- **Suitable extinguishing agents:**

Carbon dioxide (CO₂)

Fire-extinguishing powder

Foam

Use fire fighting measures that suit the environment.

- **For safety reasons unsuitable extinguishing agents:** Water

- **Special hazards caused by the material, its products of combustion or resulting gases:**

Dangerous decomposition product see chapter 10: stability and reactivity

- **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

- **Additional information:**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Heating leads to pressure increase entailing danger of bursting and explosion. Immediately cool neighbouring packages and containers with sprayed water and, if possible, remove them out of the danger zone

6 Accidental release measures

- **Person-related safety precautions:**



Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Use respiratory protective device against the effects of fumes/dust/aerosol.

Avoid contact with eyes and skin.

- **Measures for environmental protection:**

Do not allow product to reach sewage system or any water course.

Do not allow to penetrate the ground/soil.

- **Measures for cleaning/collecting:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Send for recovery or disposal in suitable receptacles.

Dispose contaminated material as waste according to item 13.

7 Handling and storage

- **Handling**

- **Information for safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Carry out filling operations only at sites with extractors available.

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Avoid contact with eyes and skin.
 Avoid inhalation of vapours.
 Keep the working area dry and clean.
 Restrict the quantity stored at the work place.

· **Information about protection against explosions and fires:**



Keep ignition sources away - Do not smoke.

Dust can combine with air to form an explosive mixture.
 Protect against electrostatic charges

· **Storage**

· **Requirements to be met by storerooms and receptacles:**

Store container tightly sealed at a cool and dry place with sufficient ventilation.

Unsuitable material:

Iron

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Store away from feed.

· **Further information about storage conditions:** Protect from humidity and water.

· **Storage class** 11 Combustible solids

8 Exposure controls and personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Components with limit values that require monitoring at the workplace:** Not required.

· **Personal protective equipment**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not inhale gases / fumes / aerosols.

Provide eye bath.

If larger quantities are handled provide emergency showers.

· **Breathing equipment:**

Use suitable respiratory protective device in case of insufficient ventilation.



In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Short term filter device:

Filter P2.

Filter A/P2.

· **Protection of hands:**

Chemical resistant gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

After use of gloves apply skin-cleaning agents and skin cosmetics.

When handling the molten product use heat-resistant gloves.

· **Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

For undissolved solid substances following materials may be suitable:

Nitrile rubber, NBR

Butyl rubber, BR

Polychloroprene rubber (CR)

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Fluorocarbon rubber (FKM)

Penetration time of glove material:

The exact break-through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Basket goggles (DIN EN 58211, code number 3) or face protection shield.**Body protection:** Protective work clothing.

9 Physical and chemical properties:

General Information

Form: Solid.
Colour: Colourless
Odour: Odourless

Change in condition:**Melting point/Melting range:** 34°C**Boiling point/Boiling range:** 296°C**Flash point:** 152°C**Ignition temperature:** 395°C**Danger of explosion:** Product does not present an explosion hazard.**Vapour pressure at 20°C:** 0.01 hPa**Density at 20°C:** 1.1525 g/cm³**Solubility in / Miscibility with****Water at 20°C:** 2.3 g/l
hydrolizes slowly**pH-value:** Aqueous solution reacts acidic due to hydrolization products.

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

To avoid thermal decomposition do not overheat.

Conditions to be avoided: see chapter 7

Materials to be avoided:

Water and humidity

Bases

Amines

Alcohol

Dangerous products of decomposition:

In the case of fire or at high temperatures the formation of the following decomposition products is possible.

Carbon monoxide and carbon dioxide

11 Toxicological information

Acute toxicity:**Primary irritant effect:****on the skin:** May cause irritation to the skin.**on the eye:** Strong irritant with the danger of severe eye injury.**Sensitization:**

Sensitization possible through inhalation.

Sensitization possible through skin contact.

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12 Ecological information

- **Ecotoxicological effects:**
- **Aquatic toxicity:** Presently there are no ecotoxicological values available.
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

- **Product:**
- **Recommendation:**



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Disposal according to instructions of local authorities.

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** No hazardous good according to the regulation.
- **Maritime transport IMDG:**
- **IMDG Class:** No hazardous good according to the regulation.
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** No hazardous good according to the regulation.

15 Regulations

- **Markings according to EC guidelines:**
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials
EC-labelling
- **Code letter and hazard designation of product:**



Xn Harmful

- **Risk phrases:**
41 Risk of serious damage to eyes.
42/43 May cause sensitisation by inhalation and skin contact.
- **Safety phrases:**
23 Do not breathe fumes/aerosol.
24 Avoid contact with skin.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37/39 Wear suitable gloves and eye/face protection.
- **National regulations**
- **Information about limitation of use:**
Restrictions on juvenile employment must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

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- **Technical guidance (air):**
 - **Class Share in %**
 - I 100.0
 - **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
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16 Other information:

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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