

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date: 20.12.2013

Version: 4. 0

Revision: 20.12.2013

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name: **Methylhexahydrophthalic Anhydride (MHHPA)**

CAS Number:  
25550-51-0

EC number:  
247-094-1

Index number:  
607-241-00-6

Registration number:

This substance has (All substances contained in this mixture have) been pre-registered according to regulation (EC) No. 1907/2006 in its current version.

1.2 Relevant identified uses of the substance or mixture and uses advised against: -

Application of the substance / the preparation: Hardening agent / Curing agent

#### 1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer:

Penpet Petrochemical Trading GmbH

Merkurring 105

22143 Hamburg

Germany

Tel: +49 40 675 799 0

Fax: +49 40 675 799 99 / 88

Email competent person: sds@kft.de

Information department: See supplier/manufacturer

1.4 Emergency telephone number:

National Poisons Information Service (NPIS)

24 hour national number is 0844 892 0111 professionals only

National Health Service (NHS)

24 hour national number is 0845 4647 consumer

### SECTION 2: Hazards identification

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.

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Xi; Irritant

R41: Risk of serious damage to eyes.

- **Classification system:**

The classification complies with current legislation, but is supplemented with information from technical literature and company information.

- **2.2 Label elements**

- **Labelling according to Regulation (EC) No 1272/2008** The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms**



GHS05

GHS08

- **Signal word** Danger

- **Hazard statements**

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

- **Precautionary statements**

P261 Avoid breathing dust.

P285 In case of inadequate ventilation wear respiratory protection.

P280 Wear protective gloves / eye protection.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable

- **vPvB:** Not applicable

## SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterization: Substances**

- **CAS No. Description:**

25550-51-0 hexahydromethylphthalic anhydride

- **Identification number(s):**

- **EC number:** 247-094-1

- **Index number:** 607-241-00-6

- **SVHC**

25550-51-0 hexahydromethylphthalic anhydride

## SECTION 4: First aid measures

- **4.1 Description of first aid measures**

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

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- **After inhalation:**  
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness, place patients on their side in a stable position for transportation.
- **After skin contact:**  
Remove contaminated clothes and shoes.  
Clean affected skin thoroughly with water and a mild cleansing agent. No residues shall remain on the skin. If skin irritation continues, consult a doctor.
- **After eye contact:**  
Protect unharmed eye.  
Rinse the eyes with open eyelids for 10 - 15 minutes with water. Then consult an eye specialist immediately.
- **After swallowing:**  
Rinse mouth with water.  
Give some milk.  
Induce vomiting and call medical help.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed** Symptomatic treatment

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
Carbon dioxide (CO<sub>2</sub>)  
Fire-extinguishing powder  
Foam  
Water jet spray  
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** High volume water jet
- **5.2 Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Carbon monoxide (CO)  
Carbon dioxide (CO<sub>2</sub>)
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **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.  
Cool endangered receptacles with water spray.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**



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.

- **6.2 Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Do not allow to penetrate the ground/soil.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.

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Do not flush with water or aqueous cleansing agents  
Make sure to recycle or dispose of in suitable receptacles.

**6.4 Reference to other sections**

See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

**7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.  
Carry out filling operations only at sites with extractors available.  
Avoid contact with eyes and skin.  
Avoid inhalation of vapours.  
Keep the working area dry and clean.  
Do not use compressed air to transfer.

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

Keep ignition sources away - Do not smoke.

**7.2 Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:**

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

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

Store away from foodstuffs.

Store away from feed.

Refer to national regulations for storing hazardous chemicals.

**Further information about storage conditions:** Protect from humidity and water.**Storage class:** 10 Combustible liquids**7.3 Specific end use(s)** No further relevant information available

### SECTION 8: Exposure controls/personal protection

**Additional information about design of technical systems:** No further data; see section 7.**8.1 Control parameters****Components with limit values that require monitoring at the workplace:** Not required**Additional information:** The lists that were valid during the creation were used as basis.**8.2 Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.  
Remove all soiled and contaminated clothing immediately.  
Wash hands before breaks and at the end of work.  
Avoid contact with eyes and skin.  
Do not inhale gases/fumes/aerosols.  
Provide eye bath.  
If larger quantities are handled, provide emergency showers.

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**Breathing equipment:**

Use a suitable respiratory protective device in case of insufficient ventilation.



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

Filter A P

**Protection of hands:**

Chemical resistant gloves (EN 374)

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

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

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

**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.

**Penetration time of glove material:**

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

**For the permanent contact gloves made of the following materials are suitable:**

For example protection gloves made by KCL GmbH, D-36124 Eichenzell; email: vertrieb@kcl.de, with following specification (tested according to EN 374):

Material: nitrile

Thickness: 0.5 mm

Permeation time: > 480 min

Product name: Dermatril (740)

These recommendations are valid only for the product mentioned in this safety data sheet.

The above-mentioned times are based on reference values as per EN 374. Under practical conditions (33 °C – taking into account the body temperature), the maximum wearing time is to be limited to one-third.

**Eye protection:**

Basket goggles (DIN EN 58211, code number 3) or face protection shield

If vapours or aerosols arise which may injure the eyes, wearing of a full mask is recommended.

**Body protection:** Protective work clothing

## SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**
**General Information:**
**Appearance:**

Form:	Liquid
Colour:	Colourless
Odour:	Aromatic

**Change in condition:**

Melting point/Melting range:	-30 °C
Boiling point/Boiling range:	168 °C (27 mbar)

Flash point: 145 °C

Danger of explosion: Product does not present an explosion hazard.

Vapour pressure at 20 °C: < 0.01 mbar

Density at 20 °C: 1.15 g/cm<sup>3</sup>

**Solubility in / Miscibility with**

Water: Decomposes slowly.

Partition coefficient (n-octanol/water): 2,59

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- |   |
|---|
| <ul style="list-style-type: none"><li>· <b>Viscosity:</b><br/>dynamic at 25 °C: 40 - 60 mPas</li><li>· <b>9.2 Other information</b> No further relevant information available</li></ul> |
|---|

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications  
To avoid thermal decomposition do not overheat.
- **10.3 Possibility of hazardous reactions** Exothermic reaction with water
- **10.4 Conditions to avoid** No further relevant information available
- **10.5 Incompatible materials:** Water and humidity
- **10.6 Hazardous decomposition products:**  
No hazardous decomposition products if instructions for storage and handling are followed

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**  
Oral LD<sub>50</sub> 6850 mg/kg (rat)
- **Primary irritant effect:**
- **on the skin:** May cause irritation to the skin.
- **on the eye:** Strongly irritant with the danger of severe eye injury
- **Sensitization:**  
May cause sensitization by inhalation.  
May cause sensitization by skin contact.
- **Other information (about experimental toxicology):**
- **Carcinogenic, mutagenic effects and adverse effects on reproduction:**  
Carcinogenicity:  
Mutagenicity:  
Toxicity to reproduction:  
No classification
- **Subacute to chronic toxicity:**
- **STOT-single exposure** No classification
- **STOT-repeated exposure:** No classification
- **Aspiration hazard** Not relevant

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**  
LC<sub>50</sub>/48h 500 mg/l (Oryzias latipes)
- **12.2 Persistence and degradability** No further relevant information available
- **Other information:** Abiotic degradation by hydrolysis
- **12.3 Bioaccumulative potential** No further relevant information available
- **12.4 Mobility in soil** No further relevant information available

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- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous to water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable
- **vPvB:** Not applicable
- **12.6 Other adverse effects** No further relevant information available

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **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
- **European waste catalogue:**  
07 02 08 other still bottoms and reaction residues
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

<ul style="list-style-type: none"> <li>· <b>14.1 UN-Number</b></li> <li>· <b>ADR, ADN, IMDG, IATA</b></li> </ul>	Void
<ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· <b>ADR, ADN, IMDG, IATA</b></li> </ul>	Void
<ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· <b>ADR, ADN</b></li> <li>· <b>Class</b></li> </ul>	Void
<ul style="list-style-type: none"> <li>· <b>IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul>	Void No hazardous good according to the regulation
<ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	Void
<ul style="list-style-type: none"> <li>· <b>14.5 Environmental hazards:</b></li> </ul>	Not applicable
<ul style="list-style-type: none"> <li>· <b>14.6 Special precautions for user</b></li> </ul>	Not applicable
<ul style="list-style-type: none"> <li>· <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></li> </ul>	Not applicable
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	-

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Information about limitation of use:**  
Take note of Directive 94/33/EC on the protection of young people at work.

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Take note of Directive 92/85/EC on the safety and health of pregnant workers at work.

**Water hazard class:**

Water hazard class 1 (Assessment by list): slightly hazardous for water  
Ident number.: 1851

**Other regulations, limitations and prohibitive regulations:**

REACH regulation (EC) 552/2009 Annex XVII  
SVHC: Observe article 7 para. 2 and 33 of Regulation 1907/2006 for downstream-users and/or consumers.

**Substances of very high concern (SVHC) according to REACH, Article 57**

Components according to candidate list (annex XIV of REACH Regulation 1907/2006/EC)

**Further information:** Version/s 1-2 is/are not available in this language.**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 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.

- Reasons for amendments:** Instructions for the protection of hands
- Replaces version dated:** 15.08.2013

**Department issuing MSDS:**

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**Contact:** Dr. Nicolas Heidrich**Abbreviations and acronyms:**

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

MAL-Code: Måleteknisk Arbejdshygiejnisk Luftbehov (Regulation for the labeling concerning inhalation hazards, Denmark)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

**Sources:**

EPA (Environmental Protection Agency/USA)

Gestis

**\* Data compared to the previous version altered.**

Changes have been made to sections marked with a \*, as compared to the previous version.