



DEUTSCHE PENTOSIN-WERKE GMBH

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Material Safety Data Sheet according to 91/155 EEC

Printing date 11/18/2004

Reviewed on 11/18/2004

1 Identification of substance

- **Product details**
- **Trade name** PENTOSIN SUPER DOT4 BRAKE FLUID
- **Article number:**
1216 102 * 1216 104 * 1216 106 * 1216 205 * 1216 208 * 1216 303 * 1208 900 * 4900 102 * 4900 205
- **Application of the substance / the preparation** Automotive Brake Fluid
- **Manufacturer/Supplier:**
Deutsche Pentosin-Werke GmbH
Industriestraße 39-43
D-22880 Wedel
Germany
Phone ++49 4103 9134-0
Fax ++49 4103 9134-71
- **Informing department:** Department QM-UM-Safety
- **Emergency information:** 24h-Emergency number ++49 30 19240

2 Composition/Data on components:

- **Chemical characterization**
- **Description:** Mixture consisting of the following components with harmless additives.

· **Dangerous components:**

143-22-6	2-(2-(2-butoxyethoxy)ethoxy)ethanol	Xi; R 36	10-25%
111-46-6	2,2'-oxybisethanol	Xn; R 22	2.5-10%
110-97-4	1,1'-iminodipropyl-2-ol	Xi; R 36	≤ 2.5%
111-77-3	2-(2-methoxyethoxy)ethanol	Xn; R 63	≤ 2.5%

- **Additional information** For the wording of the listed risk phrases refer to section 16.

3 Hazards identification

- **Hazard designation:** void
- **Information pertaining to particular dangers for man and environment**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system**
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

4 First aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhaling** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for several minutes under running water.

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- **After swallowing** Rinse out mouth and then drink plenty of water.

5 Fire fighting measures

- **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam. Use fire fighting measures that suit the environment.
- **Protective equipment:** No special measures required.
- **Additional information** Collect contaminated fire fighting water separately. It must not enter drains.

6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:**
Prevent material from reaching sewage system, holes and cellars.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Additional information:** No dangerous materials are released.

7 Handling and storage

- **Handling**
- **Information for safe handling:** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with critical values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**
The usual precautionary measures should be adhered to in handling the chemicals.
- **Breathing equipment:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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· **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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **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:** Protective goggles recommended during refilling.

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9 Physical and chemical properties:

· **General Information**

Form:	Fluid
Colour:	Light yellow
Smell:	Product-specific

· **Change in condition**

Melting point/Melting range:	<-50°C (<-58°F) (ISO 3016)
Boiling point/Boiling range:	> 260°C (> 500°F) (ASTM D-1120)

Flash point:	> 100°C (> 212°F) (EN 22719)
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Ignition temperature:	>200°C (>392°F) (DIN 51794)
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Self-inflammability:	Product is not self-igniting.
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Danger of explosion:	Product is not explosive.
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Steam pressure at 20°C (68°F):	<1 mbar
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Density at 20°C (68°F)	1.06 g/cm ³ (ISO 12185)
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Solubility in / Miscibility with Water:	Fully miscible
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pH-value at 20°C (68°F):	8
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Viscosity:	
kinematic at 20°C (68°F):	14 mm ² /s (ISO 3104)

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10 Stability and reactivity

- **Conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of composition:** None

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11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.

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- **on the eye:** No irritant effect.
- **Sensitization:** No sensitizing effect known.
- **Additional toxicological information:**
The product is not subject to classification according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

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12 Ecological information:

- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

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13 Disposal considerations

- **Product:**
- **Recommendation** Smaller quantities can be disposed with household garbage.

· **European waste catalogue**

16 00 00	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 01 00	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 13	brake fluids

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

14 Transport information

- **Maritime transport IMDG/GGVSea:**
- **Marine pollutant:** No
- **Transport/Additional information:** No dangerous goods in accordance with the above orders

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15 Regulatory information

- **Designation according to EC guidelines:**
Observe the normal safety regulations when handling chemicals
The product is not subject to identification regulations under EC Directives and the Ordinance on Hazardous Materials (GefStoffV).
- **Special designation of certain preparations:**
Contains 4,4'-isopropylidenediphenol. May produce an allergic reaction.

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· **National regulations:** All the components are listed in the EC-Inventory (EINECS/ELINCS) and in the US list (TSCA)

· **Technical instructions (air):**

Class	Share in %
II	1.1
III	3.0
NK	4.0

· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing data specification sheet:** QM-UM-Safety

· **Contact:** Mr. I. Kutzbach

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

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