

Prod.Name: PENTOSIN SUPER DOT 4 BRAKE FLUID
Manufacturer: DEUTSCHE PENTOSIN-WERKE GMBH
HMCS ID: 355068
SUC: 04 - Metal Working Fluids and Lubricants

MATERIAL SAFETY DATA SHEET

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1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: PENTOSIN SUPER DOT 4 BRAKE FLUID

External Keys:

88958860 Distributable Material (Part #)
CLUTCH Primary Tradename - Distributable Material
MASTER
CYLINDER
FLUID

MANUFACTURER INFORMATION

Manufacturer: DEUTSCHE PENTOSIN-WERKE GMBH

Address:

INDUSTRIESTRASE 39-43 DEU D-2288 WEDEL MAILING
0

Communication Lines:

Phone ++49 4103 9134-0 Information
Fax ++49 4103 9134-71
Phone ++49 30 19240 Emergency (24 hrs)

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Prefix</u>	<u>Value</u>	<u>Unit</u>	<u>Exposure Limits</u>
TRIBUTYLAMINE	102-82-9	Range	1	%Wt	No
2-PROPANOL, 1,1'-IMINODI-	110-97-4	<	2.5	%Wt	No
DIETHYLENE GLYCOL	111-46-6	Range	2.5 - 10	%Wt	Yes
TRIETHYLENE GLYCOL	112-27-6	Range	5 - 10	%Wt	No
ETHANOL,	112-35-6	Range	10 - 30	%Wt	No
2-(2-(2-METHOXYETHOXY)ETHOXY)-					
2,5,8,11-TETRAOXADODECANE	112-49-2	<	2.5	%Wt	No
ETHANOL,	143-22-6	Range	20 - 30	%Wt	No
2-(2-(2-BUTOXYETHOXY)ETHOXY)-					
Boric acid, reaction products with ethylene glycol and polyethylene glycol mono-Me ether	68441-44-1	Range	40 - 60	%Wt	No

3 HAZARDS IDENTIFICATION

Hazards Overview:

Skin Primary Entry: Yes. Eye Primary Entry: Yes. Inhalation Primary Entry: Yes. Ingestion Primary Entry: Yes.

Specific Hazards:

INHALATION, INGESTION, SKIN AND EYE CONTACT.

Specific Hazards (Routes Of Exposure):

<u>Exposure Routes</u>	<u>Exposure Duration</u>	<u>Observation</u>
Skin Contact	General	EFFECTS OF CHRONIC EXPOSURE: LIQUID CONTACT DEGREASES SKIN.
Eye Contact	General	EFFECTS OF ACUTE EXPOSURE: EYE IRRITATION, HEADACHES, DIZZINESS, DROWSINESS.
Inhalation	General	IRRITANCY OF PRODUCT: RESPIRATORY TRACT.
Ingestion	General	EFFECTS OF ACUTE EXPOSURE: IF INGESTED, ABDOMINAL SPASMS, VOMITING AND DIARRHEA.

Medical Conditions Aggravated By Exposure:

NOT YET DETERMINED.

Comment:

Additional Health Hazard Data: EFFECTS OF ACUTE EXPOSURE: SERIOUS CASES AFFECT THE NERVOUS SYSTEM, MAY CAUSE LIVER, KIDNEY AND BRAIN DAMAGE. EFFECTS OF CHRONIC EXPOSURE: OVEREXPOSURE TO FUMES FOR

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PROLONGED PERIODS MAY CAUSE ALLERGIES OR POSSIBLY KIDNEY OR LIVER DAMAGE. SENSITIZATION TO PRODUCT: POSSIBLE FOR PEOPLE WITH ALLERGIES.

4 FIRST AID MEASURES

First Aid Procedures:

SPECIFIC FIRST AID MEASURES: REMOVE CONTAMINATED CLOTHES.

First Aid By::

Inhalation IF OVERCOME BY FUMES REMOVE TO FRESH AIR AND GIVE ARTIFICIAL RESPIRATION OR OXYGEN. SEEK IMMEDIATE MEDICAL ATTENTION.
Skin Contact WASH THOROUGHLY WITH SOAP AND WATER.
Eye Contact FLUSH CONTINUALLY WITH WATER FOR FIFTEEN MINUTES.
Ingestion ADMINISTER AMPLE AMOUNTS OF WATER AND INDUCE VOMITING. SEEK MEDICAL ATTENTION IMMEDIATELY.

5 FIRE FIGHTING MEASURES

Flash Point:

= 140 C

Explosive Limits:

Lower Explosive Limit = 0.6 (LEL)

Autoignition Temperature:

Range 300 - 350 C

Special Fire Fighting Procedures:

MEANS TO EXTINGUISH: WATER, DRY-POWDER, FOAM, HALON.

Comment:

NFPA: NFPA ASSIGNED BY GENERAL MOTORS TECHNICAL REVIEW. HAZARDOUS COMBUSTION PRODS: CARBON OXIDES, ALDEHYDES.FLAMMABILITY: COMBUSTIBLE. UPPER FLAMMABLE LIMIT: N/A.

6 ACCIDENTAL RELEASE MEASURES

Comment:

Spill or Leak Procedures: SOAK UP AND REMOVE WITH NON-FLAMMABLE ABSORBENT MATERIAL SUCH AS DIATOMACEOUS EARTH, SAND OR MICA.

7 HANDLING AND STORAGE

STORAGE

Additional Information on Storage Conditions:

Precautions to be Taken in Handling and Storage: HANDLING PROCEDURES AND SPECIAL EQUIPMENT: DO NOT HANDLE NEAR OPEN FLAMES. STORE AWAY FROM OXIDIZERS AND ACIDS, IN WELL VENTILATED COOL AREA. SPECIAL SHIPPING INFORMATION: NOT REGULATED.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Engineering Controls: VENTILATION: USE IN WELL VENTILATED AREA.

EXPOSURE LIMITS

Limit Values:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Type</u>	<u>Value</u>	<u>Specificati on</u>	<u>Source</u>
DIETHYLENE GLYCOL	111-46-6	GM OEG- TWA	155mg/m3	-	Threshold Limit Values (TLVs) - ACGIH

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection SPLASH GOGGLES.
Skin Protection FOOTWEAR: N/A. CLOTHING: LONG SLEEVES.
OTHER PROTECTION: NOT REQUIRED.
Respiratory IN CASE OF FIRE NIOSH APPROVED INDEPENDENT
Protection AIR SUPPLY.
Hand Protection SOLVENT PROOF GLOVES.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Physical State: Liquid.

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Color: CLEAR LIGHT AMBER COLOR.

Odor: ODOR THRESHOLD: N/A. MILD ETHER ODOR.

PHYSICAL PROPERTIES

pH Value:

Concentrate = 8

Changes of State:

Boiling Point = 270 C

Melting/Freezing Point = -50 C

FREEZING POINT:

Vapor Pressure:

.01 MBAR

Vapor Density:

= 3.1

Evaporation Rate:

N/A

Specific Gravity:

Range 1.05 - 1.06

Comment:

COEFF. WATER/OIL DISTRIBUTION: N/A

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Hazardous Polymerization:

Hazardous Polymerization: None.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction

Decomposition

Reaction Products

TOXIC FUMES.

Comment:

Stability Text: CHEMICAL STABILITY: STABLE. INCOMPATIBLE WITH OTHER SUBSTANCES: ACIDS AND OXIDANS.

REACTIVITY CONDITIONS: WILL REACT VIOLENTLY WITH OXIDIZERS AND ACIDS, PARTICULARLY OLEUM, SULPHURIC ACID AND ELECTROLYTE BATTERY ACID. Stability and Reactivity: SENSITIVE TO IMPACT: NO. SENSITIVE TO STATIC DISCHARGE: NO.

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcinogenicity:

CARCINOGENICITY: POSITIVE TEST IN 1984 ON ETHYLENE GLYCOL.

Comment:

Toxicological Data Unlimited Text: TERATOGENICITY: NONE. REPRODUCTIVE TOXICITY: NONE. MUTAGENICITY: NONE. SYNERGISTIC PRODUCTS: NONE. ADDITIONAL TOXICOLOGY DATA ON INDIVIDUAL INGREDIENTS IS AVAILABLE AT THE MSDS PROCESSING CENTER.

12 ECOLOGICAL INFORMATION

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

DISPOSE IN APPROVED LANDFILL SITES IN ACCORDANCE WITH FEDERAL, STATE OR LOCAL REGULATIONS.

14 TRANSPORT INFORMATION

Comment:

TRANSPORTATION CLASSIFICATION: NOT REGULATED. SPECIAL SHIPPING INFORMATION: NOT REGULATED.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Flammability 2

NFPA Health 4

NFPA Reactivity 1

NATIONAL REGULATIONS

Immediate Health: Yes

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Delayed Health: Yes

Comment:

ALL COMPONENTS ARE EITHER ON OR EXEMPT FROM THE TSCA INVENTORY. WHMIS CLASSIFICATION: CLASS D, DIVISION 2A, TOXIC MATERIAL.

16 OTHER INFORMATION
