

1. Identification of the substance/mixture and of the company/undertaking:

Product identifier

Trade name: Penetrant
Article number: BDR - GL

Relevant identified uses of the substance or mixture and uses advised against

At the penetration process by colours acc. to EN ISO 3452-1
 [EN 571-1] (DIN 54 152 part 1) for finding surface cracks.

Details of the supplier of the safety data sheet

Manufacturer/Supplier

Helmut Klumpf
 Technische Chemie KG
 Industriestr. 15
 D - 45699 Herten Phone.: +49(0)2366 1003 - 0 Fax: +49(0)2366 1003 - 11 e-mail: klumpf@diffu-therm.de

Emergency telephone number: a.m. or next Emergency phone:

2. Hazards identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

GHS02 Flame
 Flam. Liq. 2 H225 Highly flammable liquid and vapour
 GHS05 Acid
 Eye Irrit. 1 H318 Causes serious eye damage.
 GHS07 Exclamation mark
 STOT SE. 3 H336 May cause drowsiness or dizziness.

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labeled according to the CLP regulation.



Hazard pictograms GHS02, GHS 05, GHS07

Signal word Danger

Hazard statements

H225 Highly flammable liquid and vapour.
 H318 Causes serious eye damage.
 H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P241 Use explosion-proof electrical/ventilating/lighting/equipment.
 P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.
 Rinse skin with water/shower.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER or doctor/physician.
 P405 Store locked up
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Results of PBT and PvB assessment

PBT: Not applicable, **vPvB:** Not applicable

3. Composition/information on ingredients

Chemical characterization:

Mixture of substances listed below and non-hazardous additions.

Components:	Name of chemical	weight %
CAS: 71-23-8 EINECS: 200-746-9	n-propanol GHS02 Flam. Liq. 2, H225; GHS05 H318 Eye Irrit. 1, H319; STOT SE 3, H336	> 90
CAS: 196823-11-7 EINECS: Polymer	oxirane, methyl-, polymer with oxirane, mono isotridecyl ether, block GHS07 Eye Dam./Irrit. 2, H319 signal word: Attention	< 2
CAS: 509-34-2 EINECS: 208-096-8	xanthene dyes C. I. Solvent Red 49 Acute Tox. 4(oral), H302 S 2, GHS07 Eye Dem./Irrit. 2, H319, H411	< 2



4. First aid measures

Description of first aid measures

General information Take affected persons out of danger area and instruct to lie down.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness bring patient into stable side position for transport.

After skin contact

Instantly wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.

After eye contact

Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.

After swallowing

Do not induce vomiting; instantly call for medical help. In case of persistent symptoms consult doctor

5. Fire fighting measures

Description of first aid measures

Suitable extinguishing agents

water haze, water spray-jet, alcohol resistant foam. use dry extinguishers like power, sand just for small fires.

For safety reasons unsuitable extinguishing agents Water with a full water jet.

Special hazards arising from the substance or mixture Carbon monoxide (CO)

Advice for fighters

Protective equipment: Wear self-contained breathing apparatus.

Additional information Cool endangered containers with water spray jet.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources

Ensure adequate ventilation

Avoid contact with eyes and skin.

Prevent material from reaching sewage system, holes and cellars.

Environmental precautions:

Prevent from spreading (e.g. by damming-in or oil barriers).

No special measures required.

Prevent material from reaching sewage system, holes and cellars.

Inform respective authorities in case product reaches water or sewage system.

Methods and material for containment and cleaning up:

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

Ensure adequate ventilation. Send for disposal or disposal as waste according to item 13.

Reference to other sections

See Section 8 for information on personal protection equipment.

7. Handling and storage

Handling:

Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Avoid splashes or spray in enclosed areas.

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

Avoid contact with eyes and skin. Avoid open fire.

Store in cool, dry place in tightly closed containers.

Keep away from heat and direct sunlight.

Information about protection against explosions and fires:

Keep ignition sources away – Do not smoke.

Protect against electrostatic charges.

Use explosion-proof apparatus/ fittings and spark-proof tools.

Use only in explosion-proof area.

Conditions for safe storage, including any incompatibilities:

Storage

Requirements to be by storerooms and containers:

Use only containers specifically permitted for this substance/product.

Store in cool location.

Provide solvent resistant, sealed floor.

Suitable material for containers and conduit: steel or stainless steel.



Information about storage in one common storage facility:

Further information about storage conditions:

- Keep container tightly sealed.
- Store in cool, dry conditions in well-sealed containers.
- Avoid contact with air / oxygen. (formation of peroxide).
- Protect from heat and direct sunlight.

8. Exposure controls/personal protection

Additional information about design for technical systems:

No other information's, see point 7.

Control parameters

Components with critical values that require monitoring at the workplace:	
71-23-8 propan-1-ol (> 50%)	
WEL	Short-term value: 625 mg/m ³ , 250 ppm Long-term value: 500 mg/m ³ , 200 ppm Sk

Exposure controls

Personal protection equipment

General protective and hygienic measures

- Keep away from foodstuffs, beverages and food.
- Instantly remove any soiled and impregnated garments.
- Wash hands during breaks and at the end of the work.
- Avoid contact with the eyes and skin.

Breathing equipment:

If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable.

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

Half-face filter respirator Type A.

Protection of hands: Protective 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.

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: Tightly sealed safety glasses.

Body protection: Protective work clothing.

9. Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: fluid Colour: colourless Smell: aromatic

Data relevant for safety:

Boiling point/Boiling range:	97 °C
Flash point:	23 °C
Ignition temperature:	360 °C
Danger of explosion:	The Product is not explosive. However, formation of explosive air/steam mixture is possible.
Critical values for explosion:	Lower e.l.: 2,1 Vol.% Upper e.l.: 13,5 Vol.%
Steam pressure at 20°C:	19 mbar
Density (20°C):	0,80 g/cm ³
Solubility in water (20°C):	Fully miscible



10. Stability and reactivity

Reactivity

Chemical stability

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions: Possible formation of peroxide.

11. Toxicological information

Toxicity test:

Acute Toxicity (LD/LC₅₀-values relevant to classification):

LD/LC ₅₀ values that are relevant for classification:		
71-23-8 propan-1-ol		
Oral	LD ₅₀	8.000 mg/kg (rat)
Dermal	LD ₅₀	4.032 mg/kg (rabbit)
Inhaled	LC ₅₀ /4 h	33,8 mg/l (rat) (4h/OECD 403)

Primary irritant effect:

Skin corrosion/irritation

Prolonged contact may cause redness or irritation.

Possible due to defatting action on prolonged contact may damage the skin.

Serious eye damage/irritation

Causes serious eye damage.

Irritation of the respiratory system

Vapor concentrations above the recommended guideline value workplace cause eye and respiratory tract.

Headache, dizziness and disorders of the central nervous system can also be caused.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Acute effects (acute toxicity, irritation and corrosivity) May cause respiratory irritation.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT-single exposure May cause drowsiness or dizziness.

STOT-repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

12. Ecological information

Toxicity

Aquatic toxicity:	
71-23-8 propan-1-ol	
EC 50	> 1.000 mg/l (Chronische Bakterientoxizität) (3h/ Belebtschlamm, (OECD 209)) 17.700 mg/l (Akute Bakterientoxizität) ((Photobacterium phosphoreum)) 3.644 mg/l (Akute Daphnientoxizität) (Daphnia magna, (DIN 38412, Teil 11))
LC 50	4.555 mg/l (Akute Fischtoxizität (96h)) ((Pimephales promelas))

Persistence and degradability Easily biodegradable

Degree of elimination: > 83%

Bioaccumulative potential

Concentration in organisms is not expected. log P(o/w): <1

Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark:

During correct introduction of low concentrations to adapted biological purification plants no disturbances the degradation of the activated sludge can be expected.

Additional ecological information:

CSB-value: ca. 2230 mg O₂/g

BSB₅-value: 1630 mg O₂

General notes:

The product may not be released into the aquatic environment without preliminary treatments (biological purification plant). Water hazard class 1 (Assessment by list): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.



13. Disposal considerations

Waste treatment methods

Recommendations

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according the local authority regulations.

European waste catalogue

07 00 00	WASTES FORM ORGAGNIC CHEMICAL PROCESSES
07 01 00	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 04*	other organic solvents, washing liquids and mother liquors

Uncleaned packaging:

Recommendations:

Disposal must be made according to official regulations.
Empty contaminated packaging's thoroughly. They can be recycled after thorough and proper cleaning.

Recommended cleaning agent: Water, if necessary with cleaning agent.

14. Transport information

Land transport

UN-No.: 1987 Identification: ALKOHOLE, N.A.G. . (mixture n-propanol)
Class: 3 Package Group: III Tunnel restriction code: D/E
Classifications code: F1 shipment category: 2 Label-no.: 3
Packing instruction: P 001, MP 19 Limited Quantities Only: 5L (LQ)

Marine transport IMDG/GGVSee

UN-No.: 1987 Class: 3.2 Package Group: III
EMS-No.: F-E, S-D Label-no.: 3 Marine Pollutant: no Label: --
Proper Shipping Name: Alcohols, n.o.s. . (mixture n-propanol)

Air transport ICAO-TI and IATA-DGR

Class/Division: 3 UN/ID-No.: 1987
Package Group: II Label: 3
Packing inst. Passenger aircraft: 309/Y309 Max. net/Package: 60 L / 10 L
Packing inst. Cargo aircraft: 310 Max. net/Package: 220 L
Proper Shipping Name: Alcohols, n.o.s. (mixture n-propanol)

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labeled according to the CLP regulation.

Relevant phrases

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

National regulations

Technical instructions (air):

Class	Share in %
NK	90

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

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.



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 contractual relationship.

Department issuing data specification sheet:

Contact: Helmut. Klumpf Technische Chemie KG

Abbreviations and acronyms:

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

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)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent