

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

### Product identifier

Trade name: Penetrant

Article number: BDR - L

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

#### Application of the substance / the preparation

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

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

## 2. Hazards identification

### Classification of the substance or mixture

GHS02 Flammable Aerosol, Category 1

GHS07 Exclamation mark

Eye Irrit. 2 H319 Causes serious eye irritation.

### Labelling according to Regulation (EC) No 1272/2008

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



Hazard pictograms GHS02, GHS07

Signal word Danger

### Hazard statements

H222 Extremely flammable aerosol.

H229 Pressurised container: May burst if heated.

H319 Causes serious eye irritation.

### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P211 Do not spray on an open flame or other ignition source.

P251 Do not pierce or burn, even after use.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.

### Results of PBT and PvB assessment

PBT: Not applicable; vPvB: Not applicable

## 3. Composition/information on ingredients

### Chemical characterization:

Aerosol with mixture of substances listed below and non-hazardous additions.

Components:	Name of chemical	weight %
CAS: 106-97-8 EINECS: 203-448-7	n-butane GHS02 Flam. Gas 1, H220; GHS04	5 - 20
CAS: 74-98-6 EINECS: 200-827-9	propane GHS02 Flam. Gas 1, H220; GHS04	5 - 20
CAS: 196823-11-7 EINECS: Polymer	oxirane, methyl-, polymer with oxirane, mono isotridecyl ether, block GHS07 Eye Dam./Irrit. 2, H319 signal word: Attention	< 3
CAS: 509-34-2 EINECS: 208-096-8	xanthene dyes C. I. Solvent Red 49 Acute Tox. 4, H302; Skin Corr. Irrit. 2, H315; Eye Irrit. 1, H318, H335	< 2

## 4. First aid measures

### General information:

Remove contaminated soaked clothing immediately.

**After inhalation:**

In the event of symptoms refer for medical treatment.

**After skin contact:**

In case of contact with skin wash off with soap and water.

**After eye contact:**

In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

**After swallowing**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting.

Seek immediate medical advice.

## 5. Fire fighting measures

**Suitable extinguishing material:**

ABC powder, foam, carbon dioxide.

**Extinguishing material that must not be used for safety reasons:**

Full water jet.

**Special exposure hazards extinguishing from the substance or preparation itself, combustible products or resulting gases:**

None

**Special protective equipment for fire fighters:**

None

**Additional information's:**

Cool containers at risk with water spray jet.

Danger for bursting of aerosols when heated for more than 50°C.

Aerosols that burst in fire can be mightily shot away.

## 6. Accidental release measures

**Personal precautions:**

Avoid contact with eyes and skin.

Ensure adequate ventilation.

Do not breathe vapour. Remove all ignition sources. Do not smoke. Avoid sparks.

**Environmental precautions:**

Do not discharge into the subsoil/soil.

Do not discharge into the drains/surface waters/groundwater.

**Methods for cleaning up/taking up:**

Take up with absorbent material

(e.g. sand, sawdust, kieselguhr, general-purpose binder).

## 7. Handling and storage

**Handling:**

**Advice on safe handling:**

Provide good room ventilation even at ground level (vapours are heavier than air).

**Advice on protection against fire and explosion:**

Keep away from sources of ignition.

Do not smoke.

Take precautionary measures against static discharges.

**Storage:**

**Requirements for storage rooms and vessels:**

Filled aerosols must not be exposed to:

1. Heating of more than 50°C by sun beams or other heat sources.

2. Storage in gates, passages, wells of staircases, buildings, floors, and lofts.

Keep container in a well-ventilated place.

**Advice on storage compatibility:**

Do not store together with oxidizing agents.

**Further information on storage conditions:**

Keep container in a well-ventilated place.



**Classification acc. to prescription:**  
 Aerosols (Aerosol containers) (TRG 300)  
 Ordinance on Industrial Safety and Health  
 TRGS 510.

**Storage class:** 2B

## 8. Exposure controls and personal protection

**Additional advice on system design:**

The necessary protection measures and the nature of the technical procedures will vary depending upon potential exposure conditions.  
 Control measures: To load limits are not exceeded, should be provided adequate ventilation.  
 Use explosion-proof ventilation equipment.

**Ingredients with occupational exposure limits to be monitored:**

<b>Components with critical values that require monitoring at the workplace:</b>	
<b>111-90-0</b>	<b>Diethylenglycolmonoethylether (&lt; 50%)</b>
<b>WEL</b>	35 mg/m <sup>3</sup> , 6 ml/m <sup>3</sup> 2(I);AGS, Y
<b>106-97-8</b>	<b>n-butane (5 - 20%)</b>
<b>WEL</b>	2.400 mg/m <sup>3</sup> , 1.000 ml/m <sup>3</sup> ; 4(II); DFG
<b>74-98-6</b>	<b>propane (5 - 20%)</b>
<b>WEL</b>	1.800 mg/m <sup>3</sup> , 1.000 ml/m <sup>3</sup> ; 4(II); DFG

**Personal protection equipment:**

**General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.  
 Keep away from foodstuffs, beverages and food.  
 Instantly remove any soiled and impregnated garments.  
 Wash hands during breaks and at the end for the work.  
 Avoid contact with 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.

**Hand protection:** Neoprene gloves

**Eye protection:** Tightly fitting goggles

**Skin Protection:** Light protective clothing.

**General protective measures:**

Avoid contact with eyes. Do not inhale aerosols.

## 9. Physical and chemical properties

**General Information:**

Form: Aerosol                      Colour: red                      Smell: almost odourless

**Data relevant for safety:**

(Product without power gas)

Boiling range:                      195 - 230 °C

Flash point:                          94 °C

Ignition temperature:           320 °C

Explosive properties:            The Product is not explosive, but may form flammable/explosive vapour-air mixture.

Explosion limits                      Lower e.l.:                      1,2 Vol.%  
    Upper e.l.:                      11,6 Vol.%

Vapour pressure (20°C):           < 0,7 mbar

Density (20°C):                      0,99 g/cm<sup>3</sup>

Solubility in water (20°C):       completely miscible

Viscosity (20°C):                      6,05 mm<sup>2</sup>/s



## 10. Stability and reactivity

**Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

**Materials to be avoided:**

Reacts with strong oxidizing agents.

**Dangerous reactions:**

No dangerous reactions known.

## 11. Toxicological information

**Acute Toxicity:**

**Irritability/Corrosiveness:**

**Skin:** slightly irritant

**Eye:** slightly irritant

**Sensitization:**

No sensitization known.

## 12. Ecological information

**Toxicity**

Aquatic toxicity:	
111-90-0	Diethylenglycolmonoethylether
EC 50	1.982 mg/l (Daphnia) (48h/ daphnia magna)
LC 50	21.400 mg/l (Acute fish toxicity) (Lepomis macrochirus)

**Degree of elimination:** OECD 301B E 90% (1)

**Bioaccumulative potential** Not worth-mentioning accumulating in organisms.

**Mobility in soil** No further relevant information available.

**Additional ecological information:**

**General notes:**

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

**Product:**

**Recommendations:**

Hand over to authorized disposal agency.

**Waste code No.:**

EAV: 14 06 03 term: Mixture of solvent

**Contaminated packaging:**

**Recommendations:**

Container must be completely emptied and must not be opened by force.

Hand over to authorized disposal agency.

**Waste code No.:**

EAV: 15 01 10 term: Iron-metal containers with a contaminated rest of the contents

**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.

## 14. Transport information

**Land transport**

UN-No.:1950 Identification: DRUCKGASPACKUNGEN flammable

Class: 2 Package Group: -- Tunnel restriction code: D

Classifications code: 5 F shipment category: 2

Labelling of the Package: UN 1950 AEROSOLE Label-no.: 2.1

Packing instruction: P 003, MP 9 Limited Quantities Only: 1L (Package ≤ 30 kg)



**Marine transport IMDG/GGVSee**

UN-No.: 1950 Class: 2.1 Package Group: --  
EMS-No.: F-D, S-U Label-no.: -- Marine Pollutant: -- Label: --  
Proper Shipping Name: Aerosols (Limited Quantities Only) (Package ≤ 30 kg)

**Air transport ICAO-TI and IATA-DGR**

Class/Division: 2.1 UN/ID-No.: 1950  
Package Group: --, Label: 2.1  
Packing inst. Passenger aircraft: 203/Y203 Max. net/Package: 75 kg/30 kg  
Packing inst. Cargo aircraft: 203 Max. net/Package: 150 kg  
Proper Shipping Name: Aerosols, flammable

## 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 labelled according to the CLP regulation.

**Relevant phrases**

- H220 Extremely flammable gas.
- H222 Extremely flammable aerosol.
- H229 Pressurised container: May burst if heated.
- H302 Harmful if swallowed.
- H315 EN Causes skin irritation.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

**National regulations**

**Water hazard class:** Water hazard class 2 (Assessment by list): 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