

# SAFETY DATA SHEET

according to Regulation (EC) 1907/2006 (REACH), as amended by 2020/878/EU



## DIFFU - THERM® Cleaner BRE - 2 (Cans)

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

#### 1.1. Product identifier

Trade name: Cleaner  
Article number: BRE - 2  
UFI T9C0-C285-U00A-7CKH

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

##### Application of the substance / the preparation

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

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

##### Manufacturer/Supplier

Helmut Klumpf  
Technische Chemie GmbH & Co. KG  
Industriestr. 15  
D - 45699 Herten Phone.: +49(0)2366 1003 - 0 Email: info@diffu-therm.de

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

### 2. Hazards identification

#### 2.1. Classification of the substance or mixture

| REGULATION (EC) No 1272/2008 |            |                           |                  |
|------------------------------|------------|---------------------------|------------------|
| Hazard class                 | Category   | Hazard class and category | Hazard statement |
| Flammable liquids            | Category 2 | --                        | H225             |
| Eye irritation               | Category 2 | --                        | H319             |

#### 2.2. 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

H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.

##### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Do not spray on an open flame or other ignition source.  
P241 Use explosion-proof electrical/ventilating/lighting/equipment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.  
Rinse skin with water/shower.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

#### 2.3. Other hazards

The results of the PBT and vPvB assessment can be found in subsection 12.5

### 3. Composition/information on ingredients

**Chemical characterization:** Mixture of substances listed below.

| Components:                       | Name of chemical                                                                   | weight % |
|-----------------------------------|------------------------------------------------------------------------------------|----------|
| CAS: 64-17-5<br>EINECS: 200-578-6 | ethanol<br>GHS02 Flam. Fl. 2, H225; GHS07 Eye Irrit. 2, H319                       | ≥ 90     |
| CAS: 67-63-0<br>EINECS: 200-661-7 | propan-2-ol<br>GHS02 Flam. Liq. 2, H225; GHS07 Eye Irrit. 2, H319; STOT SE 3, H336 | < 1      |
| CAS: 78-93-3<br>EINECS: 201-159-0 | butanone<br>GHS02 Flam. Fl. 2, H225; GHS07 Eye Irrit. 2, H319; STOT SE3, H336      | < 1      |

### 4. First aid measures

#### 4.1. Description of first aid measures

##### General information

Instantly remove any clothing soiled by the product.  
If you feel uncomfortable consult a doctor and show the label if possible.  
Personal protection for the First Aider.

# SAFETY DATA SHEET

according to Regulation (EC) 1907/2006 (REACH), as amended by 2020/878/EU



## DIFFU - THERM® Cleaner BRE - 2 (Cans)

### After inhalation

Take affected persons into the open air and position comfortably  
Remove the person from the danger zone under proper respiratory protection. If breathing is irregular or stopped, give artificial respiration. Comfortable for the patients and provide medical help.  
Seek medical treatment in case of complaints.

### After skin contact

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

### After eye contact

Rinse opened eye for at least 15 minutes under running water. Get medical attention if irritation occurs.

### After swallowing

In case of persistent symptoms consult doctor.  
Do not induce vomiting - aspiration!  
Do not vomit. Swallow activated carbon and sodium sulphate.

### Information for doctor

#### 4.2. Most important symptoms and effects, both acute and delayed

Headache, Dizziness, Sickness  
Tiredness and other effects on the CNS.  
Signs and symptoms of eye irritation may include:  
Burning sensation, redness, swelling and / or blurred vision. Dry skin.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Causes depression of the central nervous system. Potential of a chemical pneumonia. Information from a doctor or poison control center to obtain.  
If ingested, material may be aspirated into the lungs and cause chemical pneumonia. Treat appropriately.

## 5. Firefighting measures

### 5.1. Extinguishing media:

#### Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Unsuitable extinguishing media:

High volume water jet

### 5.2. Special hazards arising from the substance or mixture

#### Specific hazards during firefighting:

Highly flammable liquid and vapour. The vapour may be invisible, heavier than air and spread along ground.  
Vapours may form explosive mixtures with air. Flash back possible over considerable distance.

**Hazardous combustion Product:** Carbon monoxide, Carbon dioxide (CO<sub>2</sub>)

### 5.3. Advice for firefighters

In case of fire, wear self-contained breathing apparatus. Wear personal protective equipment.

#### Additional information's:

Cool containers at risk with water spray jet.

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Keep away from ignition sources  
Bring persons out of danger.

### 6.2. Environmental precautions:

Do not allow product to reach sewage system or water bodies.  
Prevent material from reaching sewage system, holes and cellars.  
Inform respective authorities in case product reaches water or sewage system.  
Dilute with much water. Prevent from spreading (e.g. by damming-in or oil barriers).

### 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.

### 6.4. Reference to other sections

See Section 1 for emergency contact information.  
See Section 8 for information on personal protective equipment.  
See Section 13 for waste treatment information.

# SAFETY DATA SHEET

according to Regulation (EC) 1907/2006 (REACH), as amended by 2020/878/EU



## DIFFU - THERM® Cleaner BRE - 2 (Cans)

### 7. Handling and storage

#### Handling:

#### 7.1. Precautions for safe handling:

##### Advice on safe handling:

Ensure adequate ventilation. Use personal protective equipment.

Avoid contact with skin, eyes and clothing. Do not inhale vapours or spray mist.

##### Hygiene measures:

Keep away from food, drink and animal feed. Do not eat, drink or smoke in the area of application. Wash hands before breaks and at the end of work. Remove soiled clothing immediately.

#### 7.2. Conditions for safe storage, including any incompatibilities:

##### Requirements for storage areas:

Store in a solvent-proof place in the original container. Store on a floor.

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

Keep away from sources of ignition - Do not smoke. Vapours may be invisible, heavier than air and spread along the ground. Vapours may form explosive mixtures with air. Take measures against electrostatic charging. Use only in a place with explosion-proof equipment.

##### Further information on storage conditions:

Keep tightly closed in a dry and cool place. Keep away from direct sunlight. Keep in a well-ventilated place.

##### Advice on common storage:

Incompatible with oxidizing agents. Do not store together with oxidizing and self-igniting products. Keep away from food, drink and animal feeding stuffs.

**German storage class:** 2B Aerosols flammable

### 8. Exposure controls/personal protection

#### Additional information about design of technical systems:

Electrical equipment must be suitable for temperature class T2. All equipment must comply VbF. Use explosion-proof auxiliary equipment for class EEx e II use.

#### 8.1. Control parameters

| Components with critical values that require monitoring at the workplace: |                                                                                                                                     |
|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>64-17-5 ethanol</b>                                                    |                                                                                                                                     |
| <b>WEL</b>                                                                | Long-term value: 1.920 mg/m <sup>3</sup> , 1.000 ml/m <sup>3</sup>                                                                  |
| <b>67-63-0 propan-2-ol</b>                                                |                                                                                                                                     |
| <b>WEL</b>                                                                | Short-term value: 1.250 mg/m <sup>3</sup> , 500 ml/m <sup>3</sup><br>Long-term value: 999 mg/m <sup>3</sup> , 400 ml/m <sup>3</sup> |
| <b>78-93-3 butanone</b>                                                   |                                                                                                                                     |
| <b>WEL</b>                                                                | Long-term value: 600 mg/m <sup>3</sup> , 200 ml/m <sup>3</sup> , H, Y; (DFG)                                                        |

#### 8.2. 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.

# SAFETY DATA SHEET

according to Regulation (EC) 1907/2006 (REACH), as amended by 2020/878/EU



## DIFFU - THERM® Cleaner BRE - 2 (Cans)

### Eye protection:

A chemical goggles is recommended.  
Tightly sealed safety glasses.  
Gauze goggles

**Body protection:** Protective work clothing.

## 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties General Information

#### General Information

Form: liquid

Colour: clear

Smell: alcoholic

#### Data relevant for safety:

|                             |                                                 |
|-----------------------------|-------------------------------------------------|
| Boiling temperature:        | 78 °C                                           |
| Flash point:                | 10 - 13 °C                                      |
| Ignition temperature:       | 363 - 425 °C                                    |
| Explosion limits            | Lower e.l.: 2,5 Vol. %<br>Upper e.l.: 15 Vol. % |
| Vapour pressure (20°C):     | 56 - 60 hPa (20°C)                              |
| Density (20°C):             | 0,79 g/cm <sup>3</sup>                          |
| Solubility in water (20°C): | soluble                                         |
| pH value                    | 5,5 - 8,5 (1 %)                                 |

### 9.2 Other information

The product is not explosive, but the formation of explosive vapor/air formation of explosive vapor/air mixtures is possible.

## 10. Stability and reactivity

### 10.1. Reactivity:

Vapours can form an explosive mixture with air. Vapours are heavier than air and spread across the floor.

**10.2. Chemical stability:** Advice: Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions:

Hazardous reactions: Vapours may form explosive mixture with air. Possible formation of peroxide.

**10.4. Conditions to avoid:** Heat, flames and sparks. Protect from direct sunlight. Temperatures above 40°C.

**10.5. Incompatible materials:** Oxidising agents, acids, alkali metals, alkaline earth metals, acetic anhydride.

### 10.6. Hazardous decomposition products:

In the event of fire, the following hazardous decomposition products can be produced: Carbon monoxide, carbon dioxide (CO<sub>2</sub>)

## 11. Toxicological information

### 11.1. Information on the hazard classes within the meaning of Regulation (EC) No. 1272/2008

#### Information on toxicological effects

**Acute toxicity:** Data for the product

**Oral:** Acute toxicity estimate: >2,000 mg/kg (calculation method)

**Inhalation:** Acute toxicity estimate: > 20 mg/l (4 h; vapour) (calculation method)

**Skin:** No data available for the mixture itself. This information is included in the list of the component/components contained further down in this section.

#### Irritation:

**Skin:** Not classified, based on the calculation method of the CLP Regulation.

**Eyes:** Causes serious eye irritation.

**Sensitisation:** No sensitising effect known.

#### CMR effects

#### CMR properties

**Carcinogenicity:** It is not considered to be a carcinogen.

Contains no component classified as a carcinogen

**Mutagenicity:** It is not considered to be mutagenic.

Contains no component classified as mutagenic

**Reproductive toxicity:** It is not considered toxic to reproduction.

Contains no ingredient classified as toxic for reproduction

#### Specific target organ toxicity, single exposure:

The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### Specific target organ toxicity, repeated exposure:

The substance or mixture is not classified as specific target organ toxicant, single exposure.

**Aspiration hazard:** Not classified for aspiration toxicity.

# SAFETY DATA SHEET

according to Regulation (EC) 1907/2006 (REACH), as amended by 2020/878/EU



## DIFFU - THERM® Cleaner BRE - 2 (Cans)

### Further information:

Other information on toxicity:

Ethanol is a Nerves- and Cell poison which, due to its good solubility in water and fats, can have a toxic effect on the entire organism depending on the concentration. The good lipid solubility is responsible for the strong main effect on the CNS. Absorption via the mucous membranes is rapid, absorption via the outer skin is less pronounced. Elimination is by oxidative degradation, secondarily unchanged via exhalation and kidneys. High concentrations (> 60%) lead to damage to the mucous membranes due to dehydration. Depending on the amount ingested and the accompanying circumstances, various states of intoxication with loss of self-control, dizziness and vomiting occur after the euphoric stage. The simultaneous presence of solvents, amines, aromatic nitro compounds and a number of drugs has a mutually potentiating effect. Inhalation of the aerosol can cause irritation of the mucous membranes.

**Acute toxicity Skin: LD50**

**Ethanol** CAS No. 64-17-5 > 2.000 mg/kg (rabbit) (OECD Test Guideline 402)

**Butanone** CAS No. 78-93-3 > 5.000 mg/kg (rabbit) (OECD Test Guideline 402)

**Propan-2-ol** CAS No. 67-63-0 13.900 mg/kg (rabbit) (OECD Test Guideline 402)

## 12. Ecological information

### 12.1. Toxicity:

**Ingredient Ethanol CAS-No. 64-17-5**

#### **Fish:**

LC50 15.300 mg/l (Pimephales promelas (fathead minnow); 96 h) (flow-through test; US-EPA)

LC50 11.200 mg/l (Salmo gairdneri; 24 h) (flow-through test; US-EPA)

LC50 13.000 mg/l (Oncorhynchus mykiss; 96 h) (OECD test guideline 203)

#### **Toxicity to daphnia and other aquatic invertebrates:**

EC50 858 mg/l (Artemia salina; 24 h) (OECD Test Guideline 202) Seawater

EC50 12.340 mg/l (Daphnia magna (large water flea); 48 h) (ASTM E 729-80) Fresh water

LC50 5.012 mg/l (Ceriodaphnia dubia (water flea); 48 h) (static test; ASTM E 729-80) Fresh water

#### **Algae:**

EC50 275 mg/l (Chlorella vulgaris (freshwater algae); 72 h) (static test; endpoint: growth rate; OECD test guideline 201) Fresh water

EC10 11,5mg/l (Chlorella vulgaris (freshwater algae); 72 h) (static test; OECD test guideline 201)

#### **Bacteria:**

EC50 5,800 mg/l (Paramecium caudatum; 4 h) (static test; no guideline applied)

**Ingredient butanone CAS-No. 78-93-3**

#### **Fish:**

LC50 2.993 mg/l (Pimephales promelas; 96 h) (static test; OECD test guideline 203)

#### **Toxicity to daphnia and other aquatic invertebrates:**

EC50 308 mg/l (Daphnia magna; 48 h) (static test; OECD test guideline 202)

#### **Algae:**

EC50 1.972 mg/l (Pseudokirchneriella subcapitata (green algae); 72 h) (static test; endpoint: growth rate; OECD test guideline 201)

#### **Bacteria:**

EC50 1.150 mg/l (Pseudomonas putida; 16 h) (static test; DIN 38412)

**Ingredient propan-2-ol CAS-No. 67-63-0**

#### **Fish:**

LC50 9.640 mg/l (Pimephales promelas; 96 h) (flow-through test; OECD test guideline 203)

#### **Toxicity to daphnia and other aquatic invertebrates:**

EC50 9.714 mg/l (Daphnia magna; 24 h) (static test; OECD test guideline 202)

#### **Algae-**

EC50 > 100 mg/l (Scenedesmus subspicatus; 72 h)

LOEC 1.000 mg/l (algae; 8 d)

#### **Bacteria:**

EC50 > 100 mg/l (bacteria) no harmful effect

### 12.2. Persistence and degradability

Readily and rapidly degradable: all individual organic substances contained in the product achieve values of at least 60% BOD/CSB or 70% DOC reduction in the readily degradable test (e.g. OECD 301 A-F)

(Limit values of the classification 'readily degradable':  $\geq 70\%$  DOC removal or  $\geq 60\%$  BOD/CSB in 28 days). readily biodegradable

### 12.3. Bioaccumulative potential: Accumulation in organisms is not to be expected.

### 12.4. Mobility in Soli: Accumulation in organisms is not to be expected.

# SAFETY DATA SHEET

according to Regulation (EC) 1907/2006 (REACH), as amended by 2020/878/EU



## DIFFU - THERM® Cleaner BRE - 2 (Cans)

### 12.5. Results of PBT and vPvB assessment:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6. Endocrine disrupting properties: No further relevant information available.

### 12.7. Other adverse effects

#### Additional ecological information:

Water hazard class 1: slightly hazardous to water Do not allow undiluted product or large quantities of it to enter groundwater, watercourses or drains. into the sewage system.

## 13. Disposal considerations

### 13.1. Waste treatment methods

- Product** : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services. This product shall be disposed of or recovered in compliance with Directive 2008/98/EC on waste as lastly amended.
- Contaminated Packaging** : Container must be completely emptied and must not be opened by force. Hand over to authorized disposal agency. Dispose of it in accordance with local regulations.
- European Waste Catalogue Number** : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in Consultation with the regional waste disposer

## 14. Transport information

### 14.1. UN number or ID number

1170

### 14.2. UN proper shipping name

ADR ETHANOL SOLUTION  
RID ETHANOL SOLUTION  
IMDG ETHANOL SOLUTION  
ICAO-TI und IATA-DGR ETHANOL SOLUTION

### 14.3. Transport hazard class(es)

ADR-Class : 3  
shipment category : 2  
(Labels; Classification Code; Hazard : 3; F1; D/E  
Identification Number; Tunnel restriction code)  
RID-Class : 3; F1  
Labels; Classification Code; Hazard  
Identification Number)  
IMDG-Class : 3  
(Labels; EmS) : F-E, S-D  
ICAO-TI und IATA-DGR : 3

### 14.4. Packaging group

ADR : II  
RID : II  
IMDG : II  
IATA : II

### 14.5. Environmental hazards

Environmentally hazardous according to ADR : no  
Environmentally hazardous according to RID : no  
Marine Pollutant according to IMDG-Code : no

### 14.6. Special precautions for user

Not applicable.

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

## 15. Regulatory information

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

#### Data for the product

**Other regulations:** Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG). Take note of the national regulations on the protection of young people at work.

# SAFETY DATA SHEET

according to Regulation (EC) 1907/2006 (REACH), as amended by 2020/878/EU



## DIFFU - THERM® Cleaner BRE - 2 (Cans)

---

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

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

### National regulations

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

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

## 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

### Department issuing data specification sheet:

**Contact:** Helmut. Klumpf Technische Chemie GmbH & Co. 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

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.