

SAFETY DATA SHEET

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



DIFFU - THERM®Cleaner BRE - S (Cans)

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

1.1. Product identifier

Trade name: Cleaner

Article number: BRE - S

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

Application of the substance / the preparation

For dye penetrant testing in accordance with DIN EN ISO 3452-1 [EN 571-1] (54 152 Part 1), for the detection of surface defects.

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
Specific target organ Toxicity - single exposure	Category 3	Central nervous system	H336

The full text of the hazard statements listed in this section can be found in section 16.

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.

H336 May cause drowsiness or dizziness.

Precautionary statements

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

P261 Avoid breathing dust/fume/gas/mist/vapours/spray

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.

P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Additional marking:

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

Vapours can form an explosive mixture with air.

Particular risk of slipping due to leaking/spilled product.

Results of the PBT and vPvB assessment

According to the results of its assessment, this substance is neither a PBT nor a vPvB substance.

Endocrine disrupting properties

Not listed.

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3. Composition/information on ingredients

3.1. Chemical characterization:

Mixture of the substances to be labelled from the table and other components not subject to labelling.

Components:	Name of chemical	weight %
CAS: 67-64-1	acetone	100
EINECS: 200-662-2	GHS02 Flam. Liq. 2, H225; GHS07 Eye Irrit. 2, H319; STOT SE 3, H336	

4. First aid measures

Description of first aid measures

General information:

Remove the affected person from the danger area and lay them down. Remove contaminated clothing immediately. If you experience any symptoms, seek medical attention.

After inhalation:

Remove to fresh air. If breathing is irregular or has stopped, give artificial respiration. If unconscious, place patient in recovery position. If serious, seek medical attention.

After skin contact:

Wash immediately with soap and plenty of water. If skin irritation persists, seek medical attention.

After eye contact:

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

Remove any contact lenses if possible. Continue rinsing.

After swallowing:

Rinse mouth with water. Never give anything by mouth to an unconscious person. DO NOT induce vomiting.

Place a vomiting person lying on their back in the recovery position. Call a doctor immediately.

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

Narcotic effects.

Headache. Dizziness. Loss of consciousness. Nausea. Drowsiness. Vomiting. Gastrointestinal complaints.

Repeated contact may lead to chapped or cracked skin.

Preventive skin protection (protective creams/ointments) is recommended.

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

Subsequent observation for pneumonia and pulmonary oedema.

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. Vapours may be invisible, heavier than air and spread along the ground.

Vapours can form explosive mixtures with air. Re-ignition at long distance possible.

Hazardous combustion products: Carbon monoxide, Carbon dioxide (CO₂)

5.3. Advice for firefighters

Cool container with water spray. Do not inhale explosion and combustion gases.

Adapt extinguishing measures to the environment.

Do not allow extinguishing water to enter drains and waterways.

Collect contaminated extinguishing water separately.

Fight fire with the usual precautions from an appropriate distance.

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

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions:

Avoid contact with eyes and skin.

Ventilate affected rooms thoroughly.

Do not inhale vapour. Remove ignition sources. Do not smoke. Avoid sparks.

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6.2. Environmental precautions:

- Absorb with liquid-binding material (e.g. sand, sawdust, universal binding agent, diatomaceous earth).
- Ensure adequate ventilation.
- Dispose of in suitable containers.
- Dispose of contaminated material as waste according to point 13.

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.

7. Handling and storage

7.1. Precautions for safe handling:

Advice on safe handling:

- Keep container tightly closed. Only use in well-ventilated areas.
- Ensure sufficient air exchange and/or extraction in work areas.
- Avoid aerosol formation. Avoid contact with eyes and skin.
- Emergency eye wash facilities should be available in the immediate vicinity.

Hygiene measures:

- Remove contaminated clothing immediately. Do not breathe gas/fume/vapour/aerosol.
- Keep away from food, drink and animal feedingstuffs. Do not eat in the area of application, drink or smoke in the application area. Wash hands before breaks and at the end of work.

7.2. Conditions for safe storage, including any incompatibilities:

Requirements for storage areas:

- Store in the original container. Store in a place with a solvent-proof 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: 3 flammable liquid

7.3. Specific end uses:

- For dye penetrant testing in accordance with DIN EN ISO 3452-1 [EN 571-1] (54 152 Part 1), for the detection of surface defects.

8. Exposure controls/personal protection

Additional information about design for technical systems:

- The necessary protective measures and the type of technical measures depend on the potential exposure conditions. Possible technical measures: Sufficient ventilation should be provided to ensure that the exposure limits are not exceeded. Use explosion-proof ventilation equipment.

8.1. Control parameters

Occupational exposure limits (occupational exposure limits)									
Country	Work substance	CAS-No.	Identifier	SMW [ppm]	SMW [mg/m³]	KZW [ppm]	KZW [mg/m³]	Note	Source
DE	Acetone	67-64-1	MAK	500	1.200	1.000	2.400	-	DFG
DE	Acetone	67-64-1	AGW	500	1.200	1.000	2.000	HY	TRGS 900

Note

H Skin-resorptive

KZW Short-term value (limit value for short-term exposure): Limit value that should not be exceeded, related to a duration of 15 minutes (unless otherwise specified)

SMW Shift average (limit value for long-term exposure): Time-weighted average value, measured or calculated for a reference period of eight hours (unless otherwise specified)

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Y There is no need to fear a risk of fruit damage if the occupational exposure limit value and the biological limit value (BGW) need not be feared.

Biological limit values							
Ccountry	Work substance	Parameter	Nots	Identificator	Value	Material	Source
DE	Acetone	Acetone	-	BLV	50 mg/l	Urine	TRGS 903
DE	Acetone	Acetone	-	BAT (BAR)	2,5 mg/l	Urine	DFG
DE	Acetone	Acetone	-	BLV	50 mg/l	Urine	

Values relevant for human health

Relevant DNELs and other thresholds				
Endpoint	Threshold	Protection goal, exposure route	Use in	Exposure time
DNEL	1.210 mg/m ³	Human, inhalative	Employees (industry)	Chronic - systemic effect
DNEL	186 mg/kg KG/day	Human, dermal	Employees (industry)	Chronic - systemic effect

Relevant values for the environment

Relevant PNEC and other threshold values		
End point	Threshold value	Environmental compartment
PNEC	10,6 mg/l	Freshwater
PNEC	1,06 mg/l	Seawater
PNEC	100 mg/l	Sewage treatment plant (STP)
PNEC	30,4 mg/kg	Freshwater sediment
PNEC	3,04 mg/kg	Marine sediment
PNEC	29,5 mg/kg	Soil

8.2. Exposure controls and monitoring

Suitable technical control equipment: Use of local and general ventilation.

Individual protective measures (personal protective 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 a suitable glove depends not only on the material, but also on other quality features. quality features and varies from manufacturer to manufacturer.

Positive experiences have been made with butyl gloves. Protective gloves should be replaced at the first signs of wear and tear.

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.

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9. Physical and chemical properties

9.1. Information on basic physical and chemical properties General Information

Appearance:

Form: liquid Colour: colourless / clear Smell: sweetish aromatic t

Data relevant for safety:

Melting point: -94,7 °C
Boiling point/Boiling range: 56,05 °C
Flash point: -17 °C
Ignition temperature: 465 °C
Critical values for explosion: Lower e.l.: 2,5 Vol.%
Upper e.l.: 14,3 Vol.%
Vapour pressure(20°C): 240 hPa
Density (20°C): 0,79 g/cm³
Solubility in water (20°C): Miscible in any ratio
Partition coefficient n-octanol/water (log value) -0.23 (ECHA)
Dynamic viscosity (20°C) not determined
pH value 5 - 6 (20°C)

9.2 Other information

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

Flammability (liquids) Flammable liquid.

Remarks: Highly flammable liquid and vapour.

Evaporation rate: 2.0 (ether = 1)

10. Stability and reactivity

10.1. Reactivity:

Note: No decomposition if stored and used as directed.

10.2. Chemical stability:

Note: Stable under specified storage conditions.

10.3. Possibility of hazardous reactions:

May form explosive peroxides. The formation of explosive vapour/air mixtures is possible.

10.4. Conditions to avoid: Heat, flames and sparks.

Thermal decomposition: No data available

10.5. Incompatible materials:

Zu vermeidende Stoffe: Starke Oxidationsmittel, Starke Säuren, Aluminium.

10.6. Hazardous decomposition products: Under fire conditions: Carbon oxides

11. Toxicological information

11.1. Information on hazard classes according to Regulation (EC) No 1272/2008:

Unless otherwise stated, the classification is based on:

Animal studies; Findings from other available toxicity tests;

Expert judgement (weight of evidence determination).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity:

Is not to be classified as acutely toxic.

Exposure path	End point	Value	Species	Method	Source
oral	LD50	5.800 mg/kg	Rat, female	OECD Guideline 401	ECHA
dermal	LD50	> 15.800 mg/kg	Rabbit	-	GESTIS
inhalation: vapour	LC50	76 mg/l /4h	Rat	-	GESTIS

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Skin corrosion/irritation:

Classification could not be made due to: Missing, inconclusive or conclusive but insufficient data for classification.

Serious eye damage/eye irritation:

Causes serious eye irritation. (1272/2008/EC, Annex VI)

Respiratory or skin sensitisation:

Skin sensitisation:

Not to be classified as a skin sensitiser. (ECHA)

Sensitisation of the respiratory tract:

Classification could not be made due to: Missing, inconclusive or conclusive but insufficient data for classification.

Germ cell mutagenicity:

Is not to be classified as germ cell mutagenic (mutagenic).

(ECHA, OECD Guideline 471, OECD Guideline 473, OECD Guideline 476)

Carcinogenicity: Not to be classified as carcinogenic.(ECHA)

Reproductive toxicity

Classification could not be made due to:

Lack of data, inconclusive data or conclusive but insufficient data for classification.

Specific target organ toxicity (single exposure)

May cause drowsiness and dizziness. (1272/2008/EC, Annex VI)

Specific target organ toxicity - repeated exposure

Classification could not be made due to:

Missing, inconclusive or conclusive but insufficient data for classification.

Aspiration hazard

Not to be classified as an aspiration hazard.

Other information

Repeated exposure may cause skin dryness or cracking. (1272/2008/EC, Annex VI)

11.2 Information on other hazards

Endocrine disrupting properties

Not listed.

12. Ecological information

12.1. Toxicity

(Acute) aquatic toxicity

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

End point	Exposure duration	Value	Species	Method	Source
LC50	96 h	5.540 mg/l	Rainbow trout (Oncorhynchus mykiss)	-	ECHA
LC50	48 h	8.800 mg/l	Daphnia magna	-	ECHA

(Chronic) aquatic toxicity: Based on available data, the classification criteria are not met.

End point	Exposure duration	Value	Species	Method	Source
EC50	30 min	61,15 g/l	Activated sludge from a predominantly municipal wastewater	OECD Guideline 209	ECHA
NOEC	28 d	1.106 - 2.212 mg/l	Daphnia magna	-	ECHA
LOEC	28 d	2.212 mg/l	Daphnia magna	-	ECHA
growth (EbCx) 12%	30 min	1.000 mg/l	Activated sludge from a predominantly municipal wastewater	OECD Guideline 209	ECHA

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12.2. Persistence and degradability:

The material is readily biodegradable. BSB5/CSB 0,96 (ECHA)

Degradability process				
Process	Degradation rate	Theme	Method	Source
Oxygen consumption	90,9	28 h	OECD Guideline 301 B	ECHA

Persistence: No data is available.

12.3. Bioaccumulative potential: n-octanol/water (log KOW) -0,23 (ECHA)

12.4. Mobility in soil: No data available.

12.5. Results of PBT and vPvB assessment:

According to the results of its assessment, this substance is neither a PBT nor a vPvB substance.

12.6. Endocrine disrupting properties: Not listed.

12.7. Other adverse effects: No data is available.

Remarks: Water hazard class, WGK: 1.

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

1090

14.2. UN proper shipping name

ADR ACETON
RID ACETON
IMDG ACETONE
ICAO-TI und IATA-DGR Acetone

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

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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

Observe employment restrictions according to the law on the protection of mothers at work, in training and during studies (Maternity Protection Act - MuSchG).

Observe national regulations on the protection of young people in the workplace.

Ingredient Acetone

Regulation (EC): 273/2004, drug precursors, category 3

Substances covered by the Combined Nomenclature (CN)

Code: 2914 11 00, Registered substance as listed in the Combined Nomenclature.

Restriction (Annex I) & reporting obligation (Annex II) Explosives precursors, Regulation (EU) 2019/1148

ANNEX II: EXPLOSIVE MATERIALS SUBJECT TO NOTIFICATION: List of substances which, on their own or in mixtures or in substances, are subject to the obligation to report suspicious transactions and the loss and theft of significant quantities within 24 hours.

EU. REACH, Annex XVII, Restrictions on the manufacture, placing on the market and use of certain use of certain dangerous substances, preparations and articles.

No. 40; Registered

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 been carried out for this substance.

16. Other information

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

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

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 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

The information is based on our current state of knowledge, but does not represent a guarantee of product properties and does not establish a contractual legal relationship.