

SAFETY DATA SHEET

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



DIFFU - THERM® Background-colour white DPM (Aerosol)

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

1.1. Product identifier

Trade name: Background-colour white (BS 5044, class A)

Article number: DPM

UFI SX05-A06Y-3008-34YW

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

Application of the substance / the preparation

For the Magnetic-Particle-Suspension at the Magnetic particle inspection
by acc. to EN ISO 9934-1 (DIN 54 132) 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 E-mail: 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
Aerosol	Category 1	--	H222, H229
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.

2.1. 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.

H336 May cause drowsiness or dizziness.

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.

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

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.

Additional marking:

EUH066 Repeated exposure may cause skin dryness or cracking.

Other labelling information:

Further information: Related to titanium dioxide

The classification as a "carcinogen by inhalation" only applies to mixtures in the form of powder containing at least 1% titanium dioxide in particulate form or incorporated into particles with an aerodynamic diameter of $\leq 10 \mu\text{m}$. The product contains less than 1% titanium dioxide in particulate form with an aerodynamic diameter of $\leq 10 \mu\text{m}$. Therefore, the product is not classified as a carcinogen category 2 (H351, inhalation).

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2.3. Other hazards

This substance/mixture does not contain any components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Economic information: The substance/mixture does not contain any components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 at levels of 0.1% or higher. Toxicological information:

The substance/mixture does not contain any components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 at levels of 0.1% or higher.

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 EINECS: 200-662-2	acetone GHS02 Flam. Liq. 2, H225; GHS07 Eye Irrit. 2, H319; STOT SE 3, H336	10 - 40
CAS: 106-97-8 EINECS: 203-448-7	n-butane GHS02 Flam. Gas 1, H220; GHS04	10 - 30
CAS: 74-98-6 EINECS: 200-827-9	propane GHS02 Flam. Gas 1, H220; GHS04	10 - 30
CAS: 13463-67-7 EG-Nr: 236-675-5	titan(IV)-oxide, Contains less than 1% titanium dioxide in particle form with an aerodynamic diameter $\leq 10\mu\text{m}$	< 15
CAS: 78-93-3 EINECS: 201-159-0	butanone GHS02 Flam. Liq. 2, H225; GHS07 eye irritant 2, H319; STOT SE 3, H336	< 10

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:

Rinse immediately with plenty of water for at least 5 minutes, also under the eyelids. If eye irritation persists, seek medical attention.

After swallowing:

Rinse mouth with water. Never give anything by mouth to an unconscious person. DO NOT induce vomiting. If a person is vomiting and is lying on his or her back, place him or her in the recovery position. Get medical attention immediately.

Safety measures for first aid providers:

First aid providers should pay attention to self-protection and wear the recommended protective clothing.

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

Symptoms:

Acidosis, check alkali reserves, shortness of breath, symptoms of overexposure may include headache, dizziness, tiredness, nausea and vomiting. For more information on symptoms and health hazards, see section 11.

Effects:

Aspiration if swallowed - can enter the lungs and cause damage. Aspiration may cause pulmonary edema and pneumonia.

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

Treatment

Treatment symptomatically. Follow up observation for pneumonia and pulmonary edema. If shortness of breath occurs, oxygen therapy. Artificial respiration and/or oxygen may be necessary.

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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 products:

Carbon monoxide, Carbon dioxide (CO₂)

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.

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

Aerosols that burst in fire can be mightily shot away.

separately. This must not be discharged into drains.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions:

Keep away from heat and sources of ignition. Keep away unprotected persons. Use personal protective equipment.

Provide adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours or spray mist.

6.2. Environmental precautions:

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

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:

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

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8. Exposure controls/personal protection

Additional information about design for technical systems:

No other information's, see point 7.

8.1. Control parameters

Components with critical values that require monitoring at the workplace:		
67-64-1	acetone	(10 - 40%)
WEL	1.200 mg/m ³ , 500 ml/m ³ ; 2(I); DFG, EU	
106-97-8	butane	(10 - 30%)
WEL	2.400 mg/m ³ , 1.000 ml/m ³ ; 4(II); DFG	
74-98-6	propane	(10 - 30%)
WEL	1.800 mg/m ³ , 1.000 ml/m ³ ; 4(II); DFG	
78-93-3	butanone	(< 10%)
WEL	600 mg/m ³ , 200 ml/m ³ ; 1(I); DFG, EU, H, Y	
13463-67-7	Titan(IV)-oxide	(< 15%)
WEL	Long term value: 1,25 10 mg/m ³ 2(II); alveolar inhalable; AGS, 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.

Eye protection: Tightly sealed safety glasses.

Body protection: Protective work clothing.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties General Information

Appearance:

Form: Aerosol

Colour: withe

Smell: Characteristic

Data relevant for safety:

(Product without power gas)

Boiling point/Boiling range:

56 °C

Flash point:

- 19 °C

Ignition temperature:

> 350 °C

Critical values for explosion:

Lower e.l.:

2 Vol.%

Upper e.l.:

12 Vol.%

Steam pressure at 20°C:

24 mbar

Density (20°C):

0,9 g/cm³

Solubility in water (20°C):

soluble (Solvent)

9.2 Other information

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

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10. Stability and reactivity

10.1. Reactivity

Advice: No decomposition if used as directed.

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

Conditions to avoid Thermal decomposition: Heat, flames and sparks. 235 °C

10.5. Incompatible materials

Materials to avoid:

Strong reducing agents, Oxidizing agents, Halogenated compounds, Alkali metals, Ethanolamine, Hydrogen peroxide, Ammonium nitrate, Organic peroxides, potassium permanganate, Nitric acid, Alkali hydroxide

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

11. Toxicological information

11.1. Information on toxicological effects

Acute Toxicity:

Classification-relevant		LD/LC50-Werte:
67-64-1	acetone	(10 - 40 %) (Carrier fluid)
Oral	LD50	5.800 mg/kg (Rat)
Dermal	LD50	> 15.800 mg/kg (Rat)
Inhalativ	LC50/4 h	Ca. 76 mg/l (Rat; 4h)
78-93-3	butanone	(< 10%)
Oral	LD50	2.193 mg/kg (rat)
Dermal	LD50	> 5.000 mg/kg (Rabbit)
Inhalativ	LC50/4 h	34 mg/l (Rat)

Irritation:

Skin: No skin irritation (guinea pig) Repeated contact may cause skin dryness or cracking.

Eyes: Eye irritation (rabbit) (OECD Test Guideline 405) May cause corneal injury.

Sensitization: Non-sensitizing (guinea pig) (OECD Test Guideline 406)

CMR effects/properties

Carcinogenicity: No evidence of carcinogenicity.

Mutagenicity: In vitro tests showed no mutagenic effects.

Teratogenicity: Causes developmental disorders in animals at high doses.

Reproductive toxicity: Animal testing showed no effect on fertility.

Aspiration hazard: No classification for aspiration toxicity.

Further information

Inhalation of high vapor concentrations may cause symptoms such as headache, dizziness, fatigue, nausea and vomiting. Chronic exposure may cause dermatitis.,

Information on other hazards

Endocrine disrupting properties

Assessment: The substance/mixture does not contain any components having endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 at levels of .1% or more. (LD/LC₅₀-values that are relevant for classification):

Additional toxicological information:

Inhalation causes dizziness, agitation, narcosis and irritation of the mucous membranes.

In case of repeated exposure to 25 ppm and 920 ppm acetone: occurrence of conjunctivitis, pharyngitis, catarrhal bronchitis, gastritis.

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12. Ecological information

12.1. Toxicity:

Acute toxicity			
67-61-1	acetone	(10 - 40 %)	(Carrier fluid)
LC50	Fish	5.540 mg/l (Oncorhynchus mykiss; 96 h)	
LC50	Daphnia	8.800 mg/l (Daphnia magna; 24 h) (static test; OECD Test Guideline 202)	
EC50	Algae	430 mg/l (Scenedesmus subspicatus; 72 h)	
EC50	Bacteria	1.000 mg/l (Daphnia magna; 24 h) (static test; OECD Test Guideline 202)	
78-93-3	butanone	(< 10%)	
EC50		1.972 mg/l (algae toxicity) (96h)	
EC50		308 mg/l (Acute Daphnia Toxicity) (48h/(Daphnia pulex))	
LC50		2.993 mg/l (Pimephales promelas; 96 h) (static test; OECD Test Guideline 203)	
EC0		1.150 mg/l (Pseudomonas putida; 16 h) (static test; DIN 38412)	

12.2. Persistence and degradability:

Carrier liquid is readily biodegradable.

Water hazard class WKG 1 = slightly hazardous to water.

Pigment particles can be separated due to insolubility in water.

12.3. Bioaccumulative potential:

Behaviour in environmental compartments:

Carrier liquid mixes with water with the exception of the pigments.

12.4. Mobility in soil:

No data available.

12.5. Results of PBT and vPvB assessment:

Result: 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. This substance is neither persistent, bioaccumulative nor toxic (PBT). This substance is not very persistent and very bioaccumulative (vPvB).

12.6. Endocrine disrupting properties:

The substance/mixture contains no components that are endocrine disruptors according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1% or more of endocrine disrupting properties.

12.7. Other adverse effects:

Other ecological information

Result: Do not allow to enter surface water or sewage system. Avoid penetration into the subsoil.

Information on elimination (persistence and degradability):

Carrier liquid is easily biodegradable.

Water hazard class WKG 1 = slightly hazardous to water.

Pigment particles can be separated by flocculation precipitation due to their insolubility in water.

Behaviour in environmental compartments:

Carrier liquid mixes with water
except for the pigments

Ecotoxic effects:

No data available.

General information:

Do not allow product to enter the environment uncontrolled.

12.5. Results of PBT and vPvB assessment

This substance/mixture does not contain any components classified as either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) in concentrations of 0.1% or higher. This substance is neither persistent, bioaccumulative nor toxic (PBT). This substance is not very persistent and very bioaccumulative (vPvB).

12.6. Endocrine disrupting properties:

The substance/mixture contains no components that are endocrine disruptors according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1% or more of endocrine disrupting properties.

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

14. Transport information

14.1. UN number or ID number

1950

14.2. UN proper shipping name

- ADR DRUCKGASPACKUNGEN entzündbar
RID DRUCKGASPACKUNGEN entzündbar
IMDG Aerosols (Limited Quantities Only) (ackage ≤ 30 kg)
ICAO-TI und IATA-DGR Aerosols, flammable

14.3. Transport hazard class(es)

- ADR-Class** : 2
shipment category : 2
(Labels; Classification Code; Hazard Identification Number; Tunnel restriction code)
Labelling of the Package : UN 1950 AEROSOLE
Limited Quantities Only (LQ) : 1L (Package ≤ 30 kg)
RID-Class : 2.1; 5F
Labels; Classification Code; Hazard Identification Number)
Labelling of the Package : UN 1950 AEROSOLE
Limited Quantities Only (LQ) : 1L (Package ≤ 30 kg)
IMDG-Class : 2.1
(Labels; EmS) : F-D, S-U
Limited Quantities Only (LQ) : 1L (Package ≤ 30 kg)
ICAO-TI und IATA-DGR : 2.1 Flammable gas
Labelling of the Package : UN 1950 AEROSOLE

14.4. Packaging group

- ADR : --
RID : --
IMDG : --
IATA : --

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

Component: acetone

- EU. Regulation 273/2004, : Scheduled substance Combined Nomenclature (CN) code: 2914 11 00
Drug Precursors, Category 3

Water hazard class: WGK 1 slightly hazardous to water: 6

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15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

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

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

Substances listed in the Combined Nomenclature (CN)

Code: 2914 11 00 and Code: 2914 12 00 Code: 2914 12 00

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 in sections 2 and 3.

H220 Extremely flammable gas.

H222 Extremely flammable aerosol.

H225 Highly flammable liquid and vapour.

H229 Pressurised container: May burst if heated.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

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: 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.