

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

### 1.1 Product identifier

#### Trade name/designation

3205 Zink-Flake BRILLANT Spray  
brillant-silber  
metallisch

UFI: GUY0-V0JK-3008-99P8

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

#### Relevant identified uses

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

#### Supplier

PHARMOL Farben und Lacke GmbH  
Günzburger Str. 65 Telephone: +49 9073 9584-0  
89423 Gundelfingen E-mail: mail@pharmol.de  
Germany Website: <https://www.pharmol.de/>

#### Department responsible for information

Labor mail@pharmol.de

### 1.4 Emergency telephone number

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 [CLP]

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Flam. Liq. 2 H225 Highly flammable liquid and vapour.  
Eye Irrit. 2 H319 Causes serious eye irritation.  
Skin Irrit. 2 H315 Causes skin irritation.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

#### Hazard pictograms



GHS02 GHS07

#### Signal word

Danger

#### Hazard statements

H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H315 Causes skin irritation.

#### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P370 + P378 In case of fire: Use extinguishing powder or sand to extinguish.  
P403 + P235 Store in a well-ventilated place. Keep cool.

#### Hazard components for labelling

not applicable

#### Supplemental hazard information

not applicable

### 2.3 Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### SECTION 3: Composition/information on ingredients.

#### 3.2 Mixtures

##### Description

##### Hazardous ingredients

CAS No. EC No. Index No.	Substance name REACH No. Classification according to Regulation (EC) No 1272/2008 [CLP]	% [mass]
115-10-6 204-065-8 603-019-00-8	<b>dimethyl ether</b> 01-2119472128-37 Flam. Gas 1 H220 Substance with a common (EC) occupational exposure limit value.	50,0 < 70,0
141-78-6 205-500-4 607-022-00-5	<b>Ethyl acetate</b> 01-2119475103-46 Flam. Liq. 2 H225 / Eye Irrit. 2 H319 / STOT SE 3 H336 / EUH066	12,5 < 15,0
1330-20-7 215-535-7 601-022-00-9	<b>o-xylene</b> 01-2119488216-32 Flam. Liq. 3 H226 / Acute Tox. 4 H312 / Skin Irrit. 2 H315 / Acute Tox. 4 H332	12,5 < 15,0
100-41-4 202-849-4 601-023-00-4	<b>ethylbenzene</b> 01-2119489370-35 Flam. Liq. 2 H225 / Asp. Tox. 1 H304 / Acute Tox. 4 H332 / STOT RE 2 H373	3,00 < 5,00

##### Remark

Full text of H- and EUH-statements: see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General information

In all cases of doubt, or when symptoms persist, seek medical advice. If unconscious but breathing normally, place in recovery position and seek medical advice.

##### Following inhalation

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

##### Following skin contact

Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners. Wash contaminated clothing before reuse.

##### After eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

##### Following ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

##### Self-protection of the first aider

First aider: Pay attention to self-protection!

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

##### Symptoms

In all cases of doubt, or when symptoms persist, seek medical advice.

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

First Aid, decontamination, treatment of symptoms.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

alcohol resistant foam, Carbon dioxide (CO<sub>2</sub>), Powder, spray mist, (water)

##### Unsuitable extinguishing media

Strong water jet

**5.2 Special hazards arising from the substance or mixture**

Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.

**Hazardous combustion products**

Hazardous combustion products: Carbon dioxide (CO<sub>2</sub>), Carbon monoxide, smoke, Nitrogen oxides (NO<sub>x</sub>).

**5.3 Advice for firefighters**

Provide a conveniently located respiratory protective device. Cool closed containers that are near the source of the fire. Do not allow water used to extinguish fire to enter drains, ground or waterways.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Remove all sources of ignition. Ventilate affected area. Do not breathe vapours.

**6.2 Environmental precautions**

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

**6.3 Methods and material for containment and cleaning up**

**For containment**

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13).

**For cleaning up**

Clean using cleansing agents. Do not use solvents.

**6.4 Reference to other sections**

Safe handling: see section 7

Personal protection equipment: refer to section 8

Disposal: see section 13

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

**Advices on safe handling**

Avoid contact with skin, eyes and clothes. Avoid respiration of swarf. Personal protection equipment: see section 8. Do not empty containers with pressure - no pressure vessel! Always keep in containers that correspond to the material of the original container. Follow the legal protection and safety regulations.

**Advices on general occupational hygiene**

When using do not eat, drink or smoke.

**7.2 Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels**

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Keep container tightly closed. Do not empty containers with pressure - no pressure vessel! Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (TRGS 727)".

**Hints on joint storage**

Keep away from strongly acidic and alkaline materials as well as oxidizers.

**Storage class** LGK3 - Flammable liquids

**Further information on storage conditions**

Keep container tightly closed. Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks.

**7.3 Specific end use(s)**

Observe technical data sheet.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational exposure limit values**

CAS No.	Substance name	Source	Long-term /short-term (Spitzenbegrenzung)
141-78-6	Ethyl acetate	WEL	734 / 1,468 ( - ) mg/m <sup>3</sup>
7429-90-5	aluminium powder (pyrophoric)	WEL	10 / - ( - ) mg/m <sup>3</sup> (inhalable fraction)
7429-90-5	aluminium powder (pyrophoric)	WEL	4 / - ( - ) mg/m <sup>3</sup> (respirable fraction)
115-10-6	dimethyl ether	WEL	766 / 958 ( - ) mg/m <sup>3</sup>
100-41-4	ethylbenzene	WEL	441 / 552 ( - ) mg/m <sup>3</sup> (may be absorbed through the skin)
1330-20-7	o-xylene	WEL	220 / 441 ( - ) mg/m <sup>3</sup> (may be absorbed through the skin)

**Additional information**

Long-term: Long-term occupational exposure limit value  
short-term: short-term occupational exposure limit value

**Biological limit values**

CAS No.	Substance name	Source	Value/ Test material
1330-20-7	o-xylene	BMGV	650 mmol/mol creatinine / urine end of exposure or end of shift

**DNEL worker**

CAS No.	Substance name	DNEL type	DNEL value
1330-20-7	o-xylene	DNEL acute inhalative (local)	289 mg/m <sup>3</sup>
1330-20-7	o-xylene	DNEL short-term oral (acute)	180 mg/kg
1330-20-7	o-xylene	DNEL long-term inhalative (systemic)	77 mg/m <sup>3</sup>
1330-20-7	o-xylene	DNEL acute inhalative (systemic)	289 mg/m <sup>3</sup>

**DNEL Consumer**

CAS No.	Substance name	DNEL type	DNEL value
1330-20-7	o-xylene	DNEL long-term dermal (systemic)	108 mg/kg
1330-20-7	o-xylene	DNEL acute inhalative (local)	174 mg/m <sup>3</sup>
1330-20-7	o-xylene	DNEL long-term inhalative (systemic)	14.8 mg/m <sup>3</sup>
1330-20-7	o-xylene	DNEL acute inhalative (systemic)	174 mg/m <sup>3</sup>

**PNEC**

CAS No.	Substance name	PNEC type	PNEC Value
1330-20-7	o-xylene	PNEC soil, freshwater	2.31 mg/kg
1330-20-7	o-xylene	PNEC aquatic, marine water	0.327 mg/L
1330-20-7	o-xylene	PNEC aquatic, freshwater	0.327 mg/L
1330-20-7	o-xylene	PNEC sediment, marine water	12.46 mg/kg
1330-20-7	o-xylene	PNEC sediment, freshwater	12.46 mg/kg
1330-20-7	o-xylene	PNEC aquatic, intermittent release	0.327 mg/L
1330-20-7	o-xylene	PNEC sewage treatment plant (STP)	6.58 mg/L

**8.2 Exposure controls**

Provide good ventilation. This can be achieved with local or room suction. If this should not be sufficient to keep aerosol and solvent vapour concentration below the exposure limit values, a suitable respiratory protection must be used.

**Personal protection equipment**

**Respiratory protection**

If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be used. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Use only respiratory protection equipment with CE-symbol including four digit test number.

#### **Hand protection**

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles: EN ISO 374

#### **Skin protection**

Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

#### **Eye/face protection**

Eye glasses with side protection: EN 166

#### **Body protection**

When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn. Anti-static clothing including shoes are recommended.

#### **Remark**

After contact clean skin thoroughly with water and soap or use appropriate cleanser.

#### **Environmental exposure controls**

Do not allow to enter into surface water or drains. See section 7. No additional measures necessary.

## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Physical state	Liquid
Colour	silver
Odour	characteristic
pH at 20 °C	not applicable
Melting point/freezing point	not determined
Initial boiling point and boiling range	> 35 °C
Flash point	-42 °C
flammability	Highly flammable liquid and vapour.
Lower explosion limit at 20°C	1 Vol-% Source: CHS-EPOXY 101 X 60
Upper explosion limit at 20°C	32 Vol-% Source: dimethyl ether
Vapour pressure at 20°C	3,278.786 mbar
Relative vapour density	not applicable
Density at 20 °C	0.4 kg/l
Water solubility at 20°C	partially soluble
Partition coefficient: n-octanol/water	see section 12
Auto-ignition temperature	240 °C Source: dimethyl ether
Decomposition temperature	not determined
Viscosity at 20 °C	< 80 mm <sup>2</sup> /s
particle characteristics	not applicable

### **9.2 Other information**

not applicable

## **SECTION 10: Stability and reactivity**

### **10.1 Reactivity**

No specific test data related to reactivity available for this product or its ingredients.

## 10.2 Chemical stability

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7.

## 10.3 Possibility of hazardous reactions

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.

## 10.4 Conditions to avoid

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7. Hazardous decomposition byproducts may form with exposure to high temperatures.

## 10.5 Incompatible materials

No further relevant information available.

## 10.6 Hazardous decomposition products

Decomposition products in case of fire: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

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

#### Skin corrosion/irritation

Causes skin irritation.

#### Serious eye damage/eye irritation

Causes serious eye irritation.

#### Respiratory or skin sensitisation

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

#### Overall assessment on CMR properties

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

#### IARC:

Gruppe 3 - propan-2-ol

Gruppe 3 - o-xylene

Gruppe 2B - ethylbenzene

#### STOT-single exposure

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

#### 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.

#### Practical experience/human evidence

Inhaling of solvent components above the MWC-value can lead to health damage, e.g. irritation of the mucous membrane and respiratory organs, as well as damage to the liver, kidneys and the central nerve system. Indications for this are: Headache, Dizziness, fatigue, amyosthenia, Dizziness, in serious cases: unconsciousness. Solvents may cause some of the aforementioned effects through skin resorption. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and/or absorption through skin. Splashing may cause eye irritation and reversible damage.

### 11.2 Information on other hazards

#### Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

## SECTION 12: Ecological information

### 12.1 Toxicity

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

### 12.2 Persistence and degradability

No information available.

### 12.3 Bioaccumulative potential

No information available.

### 12.4 Mobility in soil

No information available.

### 12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

### 12.6 Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### 12.7 Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product/Packaging disposal

Do not empty into drains; dispose of this material and its container in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

#### Waste codes/waste designations according to EWC/AVV

160303\* - inorganic wastes containing hazardous substances

\* Hazardous waste according to Directive 2008/98/EC (waste framework directive).

#### Other disposal recommendations

Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

## SECTION 14: Transport information

### 14.1 UN number or ID number

UN 1950

### 14.2 UN proper shipping name

#### Land transport (ADR/RID)

Aerosols, flammable

#### Sea transport (IMDG)

Aerosols, flammable

#### Air transport (ICAO-TI / IATA-DGR)

Aerosols, flammable

### 14.3 Transport hazard class(es)

Land transport (ADR/RID) 2.1

Sea transport (IMDG) 2.1

Air transport (ICAO-TI / IATA-DGR) 2.1

### 14.4 Packing group

not applicable

### 14.5 Environmental hazards

Land transport (ADR/RID) not applicable

Sea transport (IMDG) not applicable

### 14.6 Special precautions for user

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.

Advices on safe handling: see parts 6 - 8

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

No transport as bulk according to IBC Code.

### 14.8 Additional information

#### Land transport (ADR/RID)



Tunnel restriction code: D  
Limited quantity (LQ): 1 ltr  
Hazard identification number (Kemler No.): 23

**Sea transport (IMDG)**

EmS-No.: F-D, S-U  
Limited quantity (LQ): 1 ltr

**Air transport (ICAO-TI / IATA-DGR)**

not applicable

**SECTION 15: Regulatory information**

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

**EU legislation**

**Authorisations and/or restrictions on use**

**Regulation (EC) No. 1907/2006 (REACH), Annex XVII (restrictions)**

Use restriction according to REACH annex XVII, no.: 03, 40

**Restrictions of occupation**

Observe employment restrictions under the Maternity Protection Directive 92/85/EEC or stricter national regulations, if applicable. Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC) or stricter national regulations, if applicable.

**Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]**

VOC value: 353 g/l

**Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]**

**Hazard categories / Named dangerous substances**

P5c FLAMMABLE LIQUIDS

Quantity 1: 5,000t; Quantity 2: 50,000t

**Regulation (EU) 2019/1148 (marketing and use of explosives precursors)**

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

**National regulations**

Observe in addition any national regulations!

**Water hazard class**

**15.2 Chemical Safety Assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information**

**List of relevant hazard statements and/or precautionary statements from sections 2 to 15**

H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
EUH066	Repeated exposure may cause skin dryness or cracking.

**Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]**

Flam. Liq. 2	On basis of test data.
Eye Irrit. 2	Calculation method.
Skin Irrit. 2	Calculation method.

**Key literature references and sources for data**



Data arise from reference works and literature.

**Abbreviations and acronyms**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

OEL: Occupational Exposure Limit Value

BLV: Biological limit values

CAS: Chemical Abstracts Service

CLP: Classification, Labelling and Packaging

CMR: Carcinogenic, Mutagenic and Reprotoxic

DIN: German Institute for Standardization / German industrial standard

DNEL: Derived No-Effect Level

EAKV: European Waste Catalogue Directive

EC: Effective Concentration

EC: European Community

EN: European Standard

EU/EEA: European Economic Area

IATA-DGR: International Air Transport Association – Dangerous Goods Regulations

IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

ICAO-TI: International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air

IMDG Code: International Maritime Code for Dangerous Goods

ISO: International Organization for Standardization

LC: Lethal Concentration

LD: Lethal Dose

:

MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships

OECD: Organisation for Economic Cooperation and Development

PBT: persistent, bioaccumulative, toxic

PNEC: Predicted No Effect Concentration

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

UN: United Nations

VOC: Volatile Organic Compounds

vPvB: very persistent and very bioaccumulative

**Indication of changes**

\* Data changed compared with the previous version.

replaces version: 1.0

replaces revision of: 04-Jan-2025