

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

### 1.1 Product identifier

#### Trade name/designation

3213 Zink-Flake HELL  
UFI: 21U0-H0WA-X00J-861N

### 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

E-mail (competent person) Labor  
+49 9073 9584-0  
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; flammable liquids; H225 Highly flammable liquid and vapour.  
Eye Irrit. 2; Serious eye damage/eye irritation; H319 Causes serious eye irritation.  
STOT SE 3 Narcotic effects; STOT-single exposure; H336 May cause drowsiness or dizziness.  
Aquatic Chronic 2; Hazardous to the aquatic environment; H411 Toxic to aquatic life with long lasting effects.

### 2.2 Label elements

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

#### Hazard pictograms



GHS02 GHS07 GHS09

#### Signal word

Danger

#### Hazard statements

H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H411 Toxic to aquatic life with long lasting effects.

#### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P273 Avoid release to the environment.  
P370 + P378 In case of fire: Use extinguishing powder or sand to extinguish.  
P391 Collect spillage.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235 Store in a well-ventilated place. Keep cool.

#### Hazard components for labelling

Ethyl acetate

#### Supplemental hazard information

EUH066 Repeated exposure may cause skin dryness or cracking.

3213  
Version 2.0

Zink-Flake HELL  
Revision date 14-Jan-2025

Print date 14-Jan-2025

EUH208 Contains calcium salts of fatty acids, C6-C19-branched, alkaline. May produce an allergic reaction.

### 2.3 Other hazards

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

## 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]	weight-%
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
123-86-4 204-658-1 607-025-00-1	<b>n-butyl acetate</b> 01-2119485493-29 Flam. Liq. 3 H226 / STOT SE 3 H336 / EUH066	8,00 < 10,0
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	3,00 < 5,00
7440-66-6 231-175-3 030-001-00-1	<b>zinc powder - zinc dust (pyrophoric)</b> Pyr. Sol. 1 H250 / Water-react. 1 H260 / Aquatic Acute 1 H400 / Aquatic Chronic 1 H410	3,00 < 5,00
68551-41-7 271-376-3 -	<b>calcium salts of fatty acids, C6-C19-branched, alkaline</b> Skin Sens. 1 H317	0,300 < 0,500

#### 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. In case of unconsciousness give nothing by mouth, 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.

#### 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.

**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**

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 formation of flammable and explosive vapour concentrations in the air and exceeding the exposure limit values. Only use the material in places where open light, fire and other flammable sources can be kept away. Electrical equipment must be protected meeting the accepted standard. Provide earthing of containers, equipment, pumps and ventilation facilities. Anti-static clothing including shoes are recommended. Floors must be electrically conductive. Keep away from heat sources, sparks and open flames. Use only spark proof tools. Avoid contact with skin, eyes and clothes. Do not inhale dusts, particulates and spray mist when using this preparation. Avoid respiration of swarf. When using do not eat, drink or smoke. 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.

**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>
* 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

3213  
Version 2.0

Zink-Flake HELL  
Revision date 14-Jan-2025

Print date 14-Jan-2025

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.

### Personal protection equipment

#### Respiratory protection

If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be used. 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.

#### Environmental exposure controls

Do not allow to enter into surface water or drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	colourless
Odour	characteristic
pH at 20 °C	not applicable
Melting point/freezing point	not determined
Initial boiling point and boiling range	> 35 °C
Flash point	< 1 °C
flammability	Highly flammable liquid and vapour.
Lower explosion limit at 20°C	1.1 Vol-% Source: o-xylene
Upper explosion limit at 20°C	32 Vol-% Source: dimethyl ether
Vapour pressure at 20°C	3,025.275 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
Ignition temperature in °C	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

Hazardous decomposition byproducts may form with exposure to high temperatures e.g.: Carbon dioxide (CO<sub>2</sub>), Carbon monoxide, smoke.

## 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

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

#### 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.

#### STOT-single exposure

May cause drowsiness or dizziness.

#### 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

Toxic to aquatic life with long lasting effects.

### 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**

150110\* - packaging containing residues of or contaminated by dangerous substances

**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**

**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: 337 g/l

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

**Hazard categories / Named dangerous substances**

E2 Hazardous to the aquatic environment in Category Chronic 2

Quantity 1: 200t; Quantity 2: 500t

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!

**15.2 Chemical Safety Assessment**

For the following substances of this mixture a chemical safety assessment has been carried out:

REACH No.	Substance name	CAS No. EC No.
01-2119475103-46	Ethyl acetate	141-78-6 205-500-4
01-2119472128-37	dimethyl ether	115-10-6 204-065-8
01-2119485493-29	n-butyl acetate	123-86-4 204-658-1
01-2119488216-32	o-xylene	1330-20-7 215-535-7

**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.
H250	Catches fire spontaneously if exposed to air.
H260	In contact with water releases flammable gases which may ignite spontaneously.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.



H410 Very toxic to aquatic life with long lasting effects.  
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.  
STOT SE 3 Narcotic Calculation method.  
effects  
Aquatic Chronic 2 Calculation method.

**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  
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  
UN: United Nations  
VOC: Volatile Organic Compounds  
vPvB: very persistent and very bioaccumulative

**Indication of changes**

\* Data changed compared with the previous version.