

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

1.1 Product identifier

Trade name/designation

4362 Markierungsfarbe MK 2000 rau
RAL / NCS / Muster
matt

UFI: 2KY0-C0GD-500S-A8X2

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. 3 H226 Flammable liquid and vapour.
Skin Irrit. 2 H315 Causes skin irritation.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

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

Hazard pictograms



GHS02 GHS07

Signal word

* Warning

Hazard statements

H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H412 Harmful 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.
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

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.

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]
1330-20-7 215-535-7 601-022-00-9	o-xylene 01-2119488216-32 Flam. Liq. 3 H226 / Acute Tox. 4 H312 / Skin Irrit. 2 H315 / Acute Tox. 4 H332	12,5 < 15,0
123-86-4 204-658-1 607-025-00-1	n-butyl acetate 01-2119485493-29 Flam. Liq. 3 H226 / STOT SE 3 H336 / EUH066	7,00 < 8,00
14808-60-7 238-878-4 -	Dorsicoat PQK 8 EP/PU S Substance with a common (EC) occupational exposure limit value.	3,00 < 5,00
64742-49-0 921-024-6 649-328-00-1	Naphtha (petroleum), hydrotreated light 01-2119455851-35 Flam. Liq. 3 H226 / Asp. Tox. 1 H304 / STOT SE 3 H335 / STOT SE 3 H336 / Aquatic Chronic 2 H411	1,00 < 2,00
100-41-4 202-849-4 601-023-00-4	ethylbenzene 01-2119489370-35 Flam. Liq. 2 H225 / Asp. Tox. 1 H304 / Acute Tox. 4 H332 / STOT RE 2 H373	1,00 < 2,00
67-63-0 200-661-7 603-117-00-0	propan-2-ol Flam. Liq. 2 H225 / Eye Irrit. 2 H319 / STOT SE 3 H336	1,00 < 2,00
7779-90-0 231-944-3 030-011-00-6	trizinc bis(orthophosphate) 01-2119485044-40-0001 Aquatic Acute 1 H400 / Aquatic Chronic 1 H410	0,500 < 1,00
68551-41-7 271-376-3 -	calcium salts of fatty acids, C6-C19-branched, alkaline Skin Sens. 1 H317	0,300 < 0,500
109-55-7 203-680-9 612-061-00-6	3-aminopropyldimethylamine Acute Tox. 4 H302 / Acute Tox. 4 H312 / Skin Corr. 1B H314 / Eye Dam. 1 H318 / Aquatic Acute 1 H400	0,200 < 0,250

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 (CO₂), 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 (CO₂), Carbon monoxide, smoke, Nitrogen oxides (NO_x).

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)
* 1317-65-3	Calciumcarbonat MX 20	WEL	10 / - (-) mg/m ³ (inhalable fraction)
* 1317-65-3	Calciumcarbonat MX 20	WEL	4 / - (-) mg/m ³ (respirable fraction)
* 14808-60-7	Dorsicoat PQK 8 EP/PU S	WEL	0.1 / - (-) mg/m ³ (respirable crystalline silica)
* 64742-49-0	Naphtha (petroleum), hydrotreated light	WEL	1,800 / - (-) mg/m ³ (hydrocarbons, aliphatic C5-C6)
* 14807-96-6	Talc (Mg ₃ H ₂ (SiO ₃) ₄)	WEL	1 / - (-) mg/m ³ (respirable fraction)
* 13463-67-7	Titandioxid BLR-698	WEL	4 / - (-) mg/m ³ (respirable fraction)
* 13463-67-7	Titandioxid BLR-698	WEL	10 / - (-) mg/m ³ (inhalable fraction)
* 100-41-4	ethylbenzene	WEL	441 / 552 (-) mg/m ³ (may be absorbed through the skin)
* 1330-20-7	o-xylene	WEL	220 / 441 (-) mg/m ³ (may be absorbed through the skin)
* 67-63-0	propan-2-ol	WEL	999 / 1,250 (-) mg/m ³

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 ³
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 ³
1330-20-7	o-xylene	DNEL acute inhalative (systemic)	289 mg/m ³

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 ³
1330-20-7	o-xylene	DNEL long-term inhalative (systemic)	14.8 mg/m ³
1330-20-7	o-xylene	DNEL acute inhalative (systemic)	174 mg/m ³

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	colourless
Odour	characteristic
pH at 20 °C	not applicable
Melting point/freezing point	not determined
Initial boiling point and boiling range	> 35 °C

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Flash point	< 24 °C
flammability	Flammable liquid and vapour.
Lower explosion limit at 20°C	0.8 Vol-% Source: Naphtha (petroleum), hydrotreated light
Upper explosion limit at 20°C	12 Vol-% Source: propan-2-ol
Vapour pressure at 20°C	11.119 mbar
Relative vapour density	not applicable
Density at 20 °C	1.7 kg/l
Water solubility at 20°C	partially soluble
Partition coefficient: n-octanol/water	see section 12
Auto-ignition temperature	370 °C Source: n-butyl acetate
Decomposition temperature	not determined
Viscosity at 20 °C	400 mm ² /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

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

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 2B - ethylbenzene

Gruppe 2B - Talc ($Mg_3H_2(SiO_3)_4$)
Gruppe 1 - Dorsicoat PQK 8 EP/PU S
Gruppe 3 - o-xylene
Gruppe 1 - Luvogel SA 1
Gruppe 2B - Titandioxid BLR-698
Gruppe 3 - propan-2-ol

NTP RoC:

Known - Dorsicoat PQK 8 EP/PU S
Known - Luvogel SA 1

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

Harmful 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

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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 1263

14.2 UN proper shipping name

Land transport (ADR/RID)

Paint

Sea transport (IMDG)

Paint

Air transport (ICAO-TI / IATA-DGR)

Paint

14.3 Transport hazard class(es)

Land transport (ADR/RID)	3 for packages < = 450 litres: Not goods of Class 3
Sea transport (IMDG)	3 for packages < = 450 litres: Transport in accordance with 2.3.2.5 of the IMDG Code
Air transport (ICAO-TI / IATA-DGR)	3

14.4 Packing group

Land transport (ADR/RID)	III
Sea transport (IMDG)	III
Air transport (ICAO-TI / IATA-DGR)	III

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/E
Limited quantity (LQ): 5 ltr
Hazard identification number (Kemler No.): 30

Sea transport (IMDG)

EmS-No.: F-E, S-E
Limited quantity (LQ): 5 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: 441 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

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

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
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).
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	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. 3	On basis of test data.
Skin Irrit. 2	Calculation method.
Aquatic Chronic 3	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

Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH)
according to Regulation (EU) 2020/878

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IMDG Code: International Maritime Code for Dangerous Goods

ISO: International Organization for Standardization

LC: Lethal Concentration

LD: Lethal Dose

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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: 2.0

replaces revision of: 04-Jan-2025