

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 24.01.2023

Version number 3.00 (replaces version 2.00)

Revision: 24.01.2023

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

1.1 Product identifier

Trade name:

KRONOS 4320

EU REACH Registration number:

All components of the product are registered or exempt from registration.

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

Identified uses of the substance or mixture

architectural coatings
Industrial coatings
Printing inks

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

KRONOS INTERNATIONAL, Inc.
Peschstrasse 5
51373 Leverkusen, Germany
Tel.: INT +49 214 356-0

1.4 EMERGENCY TELEPHONE NUMBER:

KRONOS INTERNATIONAL, Inc. (Germany)
Tel.: INT + 49 214 356-4444

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to

Regulation (EC) No 1272/2008

The product is not classified, according to the CLP regulation.

2.2 Label elements

Labelling according to

Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Hazard statements

not applicable

not applicable

not applicable

not applicable

Additional information:

EUH208 Contains reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1). May produce an allergic reaction.

EUH210 Safety data sheet available on request.

2.3 Other hazards

No further relevant information available.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description:

Titanium dioxide dispersed in water

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Dangerous components:

CAS: 77-99-6 Trimethylolpropane $\geq 0.1 - < 0.32\%$
 Repr. 2, H361fd

CAS: 55965-84-9 reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1) $\leq 0.0003\%$

 Acute Tox. 3, H301; Acute Tox. 2, H310; Acute Tox. 2, H330
 Skin Corr. 1C, H314; Eye Dam. 1, H318
 Aquatic Acute 1, H400 (M=100); Aquatic Chronic 1, H410 (M=100)
 Skin Sens. 1A, H317

Specific concentration limits: Skin Corr. 1C; H314: $C \geq 0.6\%$
Skin Irrit. 2; H315: $0.06\% \leq C < 0.6\%$
Eye Dam. 1; H318: $C \geq 0.6\%$
Eye Irrit. 2; H319: $0.06\% \leq C < 0.6\%$
Skin Sens. 1A; H317: $C \geq 0.0015\%$

Additional information:

For the wording of the listed hazard phrases refer to section 16. Based upon a recent reproductive toxicity study (OECD 443), the manufacturer and others of its consortium membership self-classified TMP as a suspected reproductive toxicant (Repr. Cat 2). The group also determined new Derived No Effect Levels (DNEL). The new suggested TMP DNEL for workers by inhalation is 3.3 mg/m³ (long-term, systemic).

SECTION 4: First aid measures
4.1 Description of first aid measures

General information: Remove any clothing soiled by the product.

After inhalation: No relevant way of exposure.

After skin contact: Wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.

After eye contact: Rinse opened eye for several minutes under running water. In case of persistent symptoms consult physician.

After swallowing: Rinse out mouth and then drink plenty of water. In case of persistent symptoms consult physician.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Use fire fighting measures that suit the environment.
The product is not flammable.

5.2 Special hazards arising from the substance or mixture

None

5.3 Advice for firefighters

Protective equipment: Use protective measures that suit the hazard conditions.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Not required.

6.2 Environmental precautions:

Do not allow product to reach sewage system or water bodies.
Do not allow to enter the ground/soil.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No special measures required.

Information about protection against explosions and fires:

The product is not flammable.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and containers:

Prevent any penetration into the ground.
Recommended storage temperature > 0°C

Information about storage in one common storage facility:

Not required.

Further information about storage conditions:

None

7.3 Specific end use(s)

There are no further specific end uses than those named in section 1.2.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with critical values
that require monitoring at the
workplace:

The product does not contain any relevant quantities of materials
with critical values that have to be monitored at the workplace.

8.2 Exposure controls

Appropriate engineering
controls

No further data; see Section 7.

Individual protection measures, such as personal protective equipment

General protective and hygienic
measures:

The usual precautionary measures should be adhered to in
handling chemicals.

Breathing equipment:

Not required.

Hand protection

Requirements according to EN 374
Check protective gloves prior to each use for their proper
condition.
Preventive skin protection by use of skin-protecting agents is
recommended.

Material of gloves:

The selection of the glove material should be made in consultation
with the glove manufacturer on the basis of the material and
application.

Eye/face protection

Safety glasses

Body protection:

Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Colour:

White

Smell:

Weak, characteristic

Odour threshold:

Not determined.

Melting point/freezing point:

Not determined

Boiling point or initial boiling point and boiling
range

Not determined

Lower and upper explosion limit

Lower:

Not determined.

Upper:

Not determined.

Flash point:

Not applicable

Decomposition temperature:

Not applicable

pH

8 - 10.5

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Viscosity:
dynamic at 20°C: ≤ 1000 mPas
Solubility in / Miscibility with
Water: Fully miscible
Partition coefficient n-octanol/water (log value) Not determined.
Vapour pressure: Not determined.
Density and/or relative density
Density at 20°C: 2.3 g/cm³
Relative density Not determined.

9.2 Other information

Appearance:

Form: Liquid

Important information on protection of health and environment, and on safety.

Self-flammability: Product is not selfigniting.

Explosive properties: Product is not explosive.

Solvent content:
Solids content: 76.5 ± 0.5 %

Change in condition:
Evaporation rate Not determined.

Information with regard to physical hazard classes

Explosives not applicable

Flammable gases not applicable

Aerosols not applicable

Oxidising gases not applicable

Gases under pressure not applicable

Flammable liquids not applicable

Flammable solids not applicable

Self-reactive substances and mixtures not applicable

Pyrophoric liquids not applicable

not applicable

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Pyrophoric solids

not applicable

Self-heating substances and mixtures

not applicable

**Substances and mixtures, which emit flammable
gases in contact with water**

not applicable

Oxidising liquids

not applicable

Oxidising solids

not applicable

Organic peroxides

not applicable

Corrosive to metals

not applicable

Desensitised explosives

not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

The product is stable under normal use conditions.

10.2 Chemical stability
**Thermal decomposition /
Conditions to be avoided:**

No decomposition under normal use conditions.

**10.3 Possibility of hazardous
reactions**

No dangerous reactions known

10.4 Conditions to avoid

No further data; see Section 7.

10.5 Incompatible materials:

No further data; see Section 7.

**10.6 Hazardous decomposition
products:**

No dangerous decomposition products known.

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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.
LD/LC50 values that are relevant for classification:

Oral ATE > 2,000 mg/kg

Dermal ATE > 2,000 mg/kg

Inhalative ATE > 5 mg/m³

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation The product is not classified as sensitizing but contains ingredients that may cause allergic reactions in previously sensitized individuals.
See section 2.2

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

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

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

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.

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

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

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil The product is immobile in soil.

12.5 Results of PBT and vPvB assessment The mixture does not contain any components that are to be considered as PBT or vPvB according to the criteria of the REACH Regulation.

PBT: Not applicable.

vPvB: Not applicable.

12.6 Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.

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12.7 Other adverse effects **No further relevant information available.**

SECTION 13: Disposal considerations

13.1 Waste treatment methods

European waste catalogue Waste code number according to origin of waste

Uncleaned packagings:

Recommendation: Disposal according to official regulations

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN, ADN, IMDG, IATA not applicable

14.2 UN proper shipping name

ADR/RID/ADN, ADN, IMDG, IATA not applicable

14.3 Transport hazard class(es)

ADR/RID/ADN, ADN, IMDG, IATA

Class not applicable

14.4 Packing group

ADR/RID/ADN, IMDG, IATA not applicable

14.5 Environmental hazards

Marine pollutant: No

14.6 Special precautions for user None

14.7 Maritime transport in bulk according to IMO instruments Not applicable.

SECTION 15: Regulatory information

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

Directive 2012/18/EU

Named dangerous substances -

ANNEX I None of the ingredients is listed.

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

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Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

15.2 Chemical Safety Assessment

Substances of very high concern (SVHC) according to REACH, Article 57

The product is not listed as SVHC, it does not contain any substances of very high concern.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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 valid contractual relationship.

Department issuing data specification sheet:

Global Quality Management

Contact:

KRONOS INTERNATIONAL, Inc.
Tel.: INT + 49 214 356-0
e-mail: MSDS@kronosww.com

Version number of previous version:

2.00

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 2: Acute toxicity – Category 2
Skin Corr. 1C: Skin corrosion/irritation – Category 1C
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Skin Sens. 1A: Skin sensitisation – Category 1A
Repr. 2: Reproductive toxicity – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

* Data compared to the previous version altered.

Amended according to Regulation (EU) no 2020/878