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 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 24.01.2022 / 0002
 Replacing version dated / version: 14.01.2021 / 0001
 Valid from: 24.01.2022
 PDF print date: 24.01.2022
 MP 2.0

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

1.1 Product identifier

MP 2.0:	drawing ink MP2.0 (1x 30ml)	Order No.:86621235
	drawing ink-cartridge MP2.0 (5x 1ml)	Order No.:86621233
	disposal ink pen MP2.0 - 0,18mm(1x 1ml)	Order No.:86621464
	disposal ink pen MP2.0 - 0,25mm(1x 1ml)	Order No.:86621466
	disposal ink pen MP2.0 - 0,35mm(1x 1ml)	Order No.:86621468
	disposal ink pen MP2.0 - 0,70mm(1x 1ml)	Order No.:86621474

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

Relevant identified uses of the substance or mixture:

Ink
 Paint

Uses advised against:

No information available at present.

1.3 Details of the supplier of the safety data sheet

Murrplastik Systemtechnik GmbH
 Dieselstraße 10
 71570 Oppenweiler
 Tel.: +49 7191 482 0
 Fax: +49 7191 482 92280
 E-Mail: info@murr-systems.com
 Homepage: www.murr-systems.com

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:

GB
 +49 551 19240 (D-37075 Göttingen, 24 hour), +49 551 38 31 80

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
Flam. Liq.	2	H225-Highly flammable liquid and vapour.
Eye Irrit.	2	H319-Causes serious eye irritation.
STOT SE	3	H335-May cause respiratory irritation.
STOT SE	3	H336-May cause drowsiness or dizziness.
Aquatic Chronic	3	H412-Harmful to aquatic life with long lasting effects.
Repr.	1B	H360-May damage fertility or the unborn child.

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)

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Danger

H225-Highly flammable liquid and vapour. H319-Causes serious eye irritation. H335-May cause respiratory irritation. H336-May cause drowsiness or dizziness. H412-Harmful to aquatic life with long lasting effects. H360-May damage fertility or the unborn child.

P201-Obtain special instructions before use. P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260-Do not breathe vapours or spray. P273-Avoid release to the environment. P280-Wear protective gloves / protective clothing / eye protection / face protection.

P308+P313-IF exposed or concerned: Get medical advice / attention.

P403+P233-Store in a well-ventilated place. Keep container tightly closed.

Butanone

Amine salt in a chrome/monoazo complex (refer to *1 for an exact description)

2,6-dimethylheptan-4-one

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

SECTION 3: Composition/information on ingredients

3.1 Substances

n.a.

3.2 Mixtures

Butanone	Substance for which an EU exposure limit value applies.
Registration number (REACH)	01-2119457290-43-XXXX
Index	606-002-00-3
EINECS, ELINCS, NLP	201-159-0
CAS	78-93-3
content %	<40
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
2,6-dimethylheptan-4-one	
Registration number (REACH)	01-2119474441-41-XXX
Index	606-005-00-X
EINECS, ELINCS, NLP	203-620-1
CAS	108-83-8
content %	<40
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 3, H226 STOT SE 3, H335
Amine salt in a chrome/monoazo complex (refer to *1 for an exact description)	
Registration number (REACH)	---

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Index	611-044-00-0
EINECS, ELINCS, NLP	403-720-7
CAS	117527-94-3
content %	<10
Classification according to Regulation (EC) 1272/2008 (CLP)	Aquatic Chronic 2, H411 Repr. 1B, H360

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.

The substances named in this section are given with their actual, appropriate classification!

For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

* 1):

A mixture of tert-alkyl(C12-C14)ammonium bis[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]-chromate(1-)

tert-alkyl(C12-C14)ammonium bis[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenolato(2-)]-chromate(1-)

tert-alkyl(C12-C14)ammonium bis[1-[[5-(1,1-dimethylpropyl)-2-hydroxy-3-nitrophenyl]azo]-2-naphthalenolato(2-)]-chromate(1-)

tert-alkyl(C12-C14)ammonium-[[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]-[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]-chromate(1-)

tert-alkyl(C12-C14)ammonium-[[1-[[5-(1,1-dimethylpropyl)-2-hydroxy-3-nitrophenyl]azo]-2-naphthalenolato(2-)]-[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]-chromate(1-)

tert-alkyl(C12-C14)ammonium((1-(4(or 5)-nitro-2-oxidophenylazo)-2-naphtholato)(1-(3-nitro-2-oxido-5-pentylphenylazo)-2-naphtholato))chromate(1-)

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aiders should ensure they are protected!

Never pour anything into the mouth of an unconscious person!

Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

If the person is unconscious, place in a stable side position and consult a doctor.

Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion

Rinse the mouth thoroughly with water.

Give copious water to drink - consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water jet spray / alcohol resistant foam / CO2 / dry extinguisher.

Unsuitable extinguishing media

None known

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon

Oxides of nitrogen

Oxides of sulphur

Toxic gases

Possible build up of explosive/highly flammable vapour/air mixture.

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5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.
According to size of fire
Full protection, if necessary.
Cool container at risk with water.
Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep unprotected persons away.
Remove possible causes of ignition - do not smoke.
Ensure sufficient supply of air.
Avoid contact with eyes or skin.
If applicable, caution - risk of slipping.

6.2 Environmental precautions

If leakage occurs, dam up.
Resolve leaks if this possible without risk.
Prevent surface and ground-water infiltration, as well as ground penetration.
Prevent from entering drainage system.
If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13.
Fill the absorbed material into lockable containers.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations

Ensure good ventilation.
Avoid inhalation of the vapours.
If applicable, suction measures at the workstation or on the processing machine necessary.
Avoid contact with eyes or skin.
Keep away from sources of ignition - Do not smoke.
Take precautions against electrostatic charges.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Also seal emptied tanks and tanks in the process after they have been used.
Observe directions on label and instructions for use.
Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.
Store product closed and only in original packing.
Not to be stored in gangways or stair wells.
Observe special storage conditions.
Do not store with flammable or self-igniting materials.
Protect from direct sunlight and warming.
Store in a well-ventilated place.
Store cool.

7.3 Specific end use(s)

No information available at present.

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SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

Chemical Name	Butanone	Content %:<40
WEL-TWA: 200 ppm (600 mg/m ³) (WEL, EU)	WEL-STEL: 300 ppm (899 mg/m ³) (WEL), 300 ppm (900 mg/m ³) (EU)	---
Monitoring procedures: <ul style="list-style-type: none"> - Compur - KITA-122 SA(C) (549 277) - Compur - KITA-139 SB (549 731) - Compur - KITA-139 U (549 749) - DFG Meth.-Nr. 4 (D) (Lösungsmittelgemische 4), DFG (E) (Solvent mixtures 4) - 2015, 2002 - INSHT MTA/MA-031/A96 (Determination of ketones (acetone, methyl ethyl ketone, methyl isobutyl ketone) in air - Charcoal tube method / Gas chromatography) - 1996 - EU project BC/CEN/ENTR/000/2002-16 card 105-1 (2004) - MDHS 72 (Volatile organic compounds in air – Laboratory method using pumped solid sorbent tubes, thermal desorption and gas chromatography) - 1993 - NIOSH 2500 (METHYL ETHYL KETONE) - 1996 - NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996 - NIOSH 2555 (KETONES I) - 2003 - NIOSH 3800 (ORGANIC AND INORGANIC GASES BY EXTRACTIVE FTIR SPECTROMETRY) - 2016 - OSHA 1004 (2-Butanone (MEK) Hexone (MIBK)) - 2000 		
BMGV: 70 µmol butan-2-one/l in urine, post shift (BMGV)		Other information: Sk

Chemical Name	2,6-dimethylheptan-4-one	Content %:<40
WEL-TWA: 25 ppm (148 mg/m ³)	WEL-STEL: ---	---
Monitoring procedures: ---		
BMGV: ---		Other information: ---

Butanone						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	55,8	mg/l	
	Environment - marine		PNEC	55,8	mg/l	
	Environment - sediment, freshwater		PNEC	284,74	mg/kg	
	Environment - sediment, marine		PNEC	287,7	mg/kg	
	Environment - soil		PNEC	22,5	mg/kg	
	Environment - sewage treatment plant		PNEC	709	mg/l	
	Environment - sporadic (intermittent) release		PNEC	55,8	mg/l	
	Environment - oral (animal feed)		PNEC	1000	mg/kg	
Consumer	Human - dermal	Long term	DNEL	412	mg/kg	
Consumer	Human - inhalation	Long term	DNEL	106	mg/m ³	
Consumer	Human - oral	Long term	DNEL	31	mg/kg	
Workers / employees	Human - dermal	Long term	DNEL	1161	mg/kg	
Workers / employees	Human - inhalation	Long term	DNEL	600	mg/m ³	

2,6-dimethylheptan-4-one						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,03	mg/l	
	Environment - marine		PNEC	0,003	mg/l	

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	Environment - sporadic (intermittent) release		PNEC	0,3	mg/l	
	Environment - sediment, freshwater		PNEC	0,46	mg/kg	
	Environment - sediment, marine		PNEC	0,046	mg/kg	
	Environment - sewage treatment plant		PNEC	2,55	mg/l	
	Environment - soil		PNEC	0,0746	mg/kg	

Dimethyl sulfoxide						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	17	mg/l	
	Environment - marine		PNEC	1,7	mg/l	
	Environment - sediment		PNEC	13,4	mg/kg dry weight	
	Environment - soil		PNEC	3,02	mg/kg dry weight	
	Environment - sewage treatment plant		PNEC	11	mg/l	
	Environment - oral (animal feed)		PNEC	700	mg/kg feed	
Consumer	Human - inhalation	Long term, local effects	DNEL	47	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	120	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	70	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	60	mg/kg body weight/day	
Consumer	Human - dermal	Long term, systemic effects	DNEL	100	mg/kg body weight/day	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	200	mg/kg body weight/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	484	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	265	mg/m3	

GB WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). (8) = Inhalable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (Directive 2004/37/CE). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). (8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage. ** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision. (13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (14) = The substance can cause sensitisation of the skin (Directive 2004/37/CE).

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

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If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. EN 14042.

EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Chemical resistant protective gloves (EN 374).

Recommended

Protective gloves in butyl rubber (EN 374).

Minimum layer thickness in mm:

0,5

Permeation time (penetration time) in minutes:

>240

The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.

The recommended maximum wearing time is 50% of breakthrough time.

Protective hand cream recommended.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:

If OES or MEL is exceeded.

Gas mask filter A (EN 14387), code colour brown

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Black
Odour:	Characteristic
Odour threshold:	Not determined
pH-value:	~5,2
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	~77 °C
Flash point:	16 °C
Evaporation rate:	Not determined

Flammability (solid, gas):	n.a.
Lower explosive limit:	Not determined
Upper explosive limit:	Not determined
Vapour pressure:	<1100 hPa (50°C)
Vapour density (air = 1):	Not determined
Density:	0,872 g/cm ³ (20°C)
Bulk density:	Does not apply to liquids.
Solubility(ies):	Not determined
Water solubility:	partially
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	>200 °C
Viscosity:	~12 s (viscosity cup (4 mm))
Explosive properties:	Product is not explosive. When using: development of explosive vapour/air mixture possible.
Oxidising properties:	No

9.2 Other information

Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

SECTION 10: Stability and reactivity**10.1 Reactivity**

The product has not been tested.

10.2 Chemical stability

Stable with proper storage and handling.

10.3 Possibility of hazardous reactions

No dangerous reactions are known.

10.4 Conditions to avoid

Heating, open flame, ignition sources

Electrostatic charge

10.5 Incompatible materials

Avoid contact with strong alkalis.

Avoid contact with strong oxidizing agents.

Avoid contact with strong acids.

10.6 Hazardous decomposition products

No decomposition when used as directed.

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

Possibly more information on health effects, see Section 2.1 (classification).

EK Ink P2.0

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.

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Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

Butanone						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	
Acute toxicity, by dermal route:	LD50	5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	34,5	mg/l/4h	Rat		
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Mild irritant, Repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Irrit. 2
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Not sensitizing
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Reproductive toxicity (Developmental toxicity):	NOAEC	1002	ppm	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Negative
Symptoms:						respiratory distress, drowsiness, unconsciousness, drop in blood pressure, coughing, headaches, cramps, intoxication, drowsiness, mucous membrane irritation, dizziness, nausea and vomiting, mental confusion, fatigue
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEC	5041	ppm/6h/d	Rat	OECD 413 (Subchronic Inhalation Toxicity - 90-Day Study)	Vapours, Negative

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Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	5750	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	16000	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	11,8	mg/l/4h	Rat		
Symptoms:						ataxia, respiratory distress, abdominal pain, drop in blood pressure, coughing, collapse, headaches, intoxication, mucous membrane irritation, dizziness, nausea and vomiting.

Amine salt in a chrome/monoazo complex (refer to *1 for an exact description)

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Reproductive toxicity:						Repr. 1B

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

EK Ink P2.0							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							n.d.a.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Other adverse effects:							n.d.a.

Butanone							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	1690	mg/l	Lepomis macrochirus		
12.1. Toxicity to fish:	LC50	96h	2993	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	308	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	

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12.1. Toxicity to algae:	LC50	72h	1972	mg/l	Pseudokirchneria subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	98	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		0,29			OECD 117 (Partition Coefficient (n-octanol/water) - HPLC method)	Bioaccumulation is unlikely (LogPow < 1).
12.4. Mobility in soil:	H (Henry)		0,0000244	atm*m3/mol			25°C
Other information:	DOC		>70	%			
Other information:	BOD/COD		>50	%			

2,6-dimethylheptan-4-one

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	>100	mg/l			
12.1. Toxicity to daphnia:	EC50	48h	>100	mg/l			
12.2. Persistence and degradability:							Readily biodegradable

Amine salt in a chrome/monoazo complex (refer to *1 for an exact description)

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	1-10	mg/l	Cyprinus carpio		
12.1. Toxicity to daphnia:	EC0	24h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	>100	mg/l	Scenedesmus quadricauda		
Toxicity to bacteria:		3h	>100	mg/l	activated sludge	ISO 8192	

SECTION 13: Disposal considerations**13.1 Waste treatment methods****For the substance / mixture / residual amounts**

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

08 01 11 waste paint and varnish containing organic solvents or other hazardous substances

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. suitable incineration plant.

E.g. dispose at suitable refuse site.

For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Uncontaminated packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

Do not perforate, cut up or weld uncleaned container.

Residues may present a risk of explosion.

15 01 10 packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

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General statements

14.1. UN number: 1263

Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:
 UN 1263 PAINT RELATED MATERIAL (SPECIAL PROVISION 640D)
 14.3. Transport hazard class(es): 3
 14.4. Packing group: II
 Classification code: F1
 LQ: 5 L
 14.5. Environmental hazards: Not applicable
 Tunnel restriction code: D/E



Transport by sea (IMDG-code)

14.2. UN proper shipping name:
 PAINT RELATED MATERIAL
 14.3. Transport hazard class(es): 3
 14.4. Packing group: II
 EmS: F-E, S-E
 Marine Pollutant: n.a.
 14.5. Environmental hazards: Not applicable



Transport by air (IATA)

14.2. UN proper shipping name:
 Paint related material
 14.3. Transport hazard class(es): 3
 14.4. Packing group: II
 14.5. Environmental hazards: Not applicable



14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.
 All persons involved in transporting must observe safety regulations.
 Precautions must be taken to prevent damage.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Freighted as packaged goods rather than in bulk, therefore not applicable.
 Minimum amount regulations have not been taken into account.
 Danger code and packing code on request.
 Comply with special provisions.

SECTION 15: Regulatory information

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

Observe restrictions:
 Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!
 Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

Hazard categories	Notes to Annex I	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements
P5c		5000	50000

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): > 70 %

Observe incident regulations.

Observe regulations on prohibition of chemicals.

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15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: n.a.
 Employee training in handling dangerous goods is required.
 These details refer to the product as it is delivered.
 Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Flam. Liq. 2, H225	Classification based on test data.
Eye Irrit. 2, H319	Classification according to calculation procedure.
STOT SE 3, H335	Classification according to calculation procedure.
STOT SE 3, H336	Classification according to calculation procedure.
Aquatic Chronic 3, H412	Classification according to calculation procedure.
Repr. 1B, H360	Classification according to calculation procedure.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

H225 Highly flammable liquid and vapour.
 H226 Flammable liquid and vapour.
 H360 May damage fertility or the unborn child.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H411 Toxic to aquatic life with long lasting effects.

Flam. Liq. — Flammable liquid
 Eye Irrit. — Eye irritation
 STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation
 STOT SE — Specific target organ toxicity - single exposure - narcotic effects
 Aquatic Chronic — Hazardous to the aquatic environment - chronic
 Repr. — Reproductive toxicity

Any abbreviations and acronyms used in this document:

acc., acc. to according, according to
 ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
 AOX Adsorbable organic halogen compounds
 approx. approximately
 Art., Art. no. Article number
 ASTM ASTM International (American Society for Testing and Materials)
 ATE Acute Toxicity Estimate
 BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
 BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
 BSEF The International Bromine Council
 bw body weight
 CAS Chemical Abstracts Service
 CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
 CMR carcinogenic, mutagenic, reproductive toxic
 DMEL Derived Minimum Effect Level

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DNEL Derived No Effect Level
dw dry weight
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EC European Community
ECHA European Chemicals Agency
EEC European Economic Community
EINECS European Inventory of Existing Commercial Chemical Substances
ELINCS European List of Notified Chemical Substances
EN European Norms
EPA United States Environmental Protection Agency (United States of America)
etc. et cetera
EU European Union
EVAL Ethylene-vinyl alcohol copolymer
Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals
GWP Global warming potential
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC (Code) International Bulk Chemical (Code)
IMDG-code International Maritime Code for Dangerous Goods
incl. including, inclusive
IUCID International Uniform Chemical Information Database
IUPAC International Union for Pure Applied Chemistry
LC50 Lethal Concentration to 50 % of a test population
LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
OECD Organisation for Economic Co-operation and Development
org. organic
PBT persistent, bioaccumulative and toxic
PE Polyethylene
PNEC Predicted No Effect Concentration
ppm parts per million
PVC Polyvinylchloride
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SVHC Substances of Very High Concern
Tel. Telephone
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative
wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.
No responsibility.

These statements were made by:

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