

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 5/20/2022 Revision date: 5/20/2022 Version: 1.0

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

1.1. Product identifier

Product form : Article
Product name : Cemented Carbide, Coated Cemented Carbide and Cemented Carbide Tools

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Cutting tools mainly for metallic materials, wear resistant tools for plastic forming process, tools for macadam, civil engineering, and urban development, etc.

1.2.2. Uses advised against

Restrictions on use : Do not use for other than the specified purpose

1.3. Details of the supplier of the safety data sheet

Manufacturer

Sumitomo Electric Hardmetal Corp.
1-1-1, Koya kita, Itami, Hyogo, 664-0016 Japan
T +81 72 771 0555 - F +81 72 773 1723

1.4. Emergency telephone number

Emergency number : +81 72 771 0555(8:30-17:15 JST)(Environmental administrator)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

This product is a manufactured article. GHS classification and labeling are not applicable to product in purchased form. The hazards indicated in this document apply only when this product is cut, drilled, or modified in such a way that dust particles are released.

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

Resp. Sens. 1	H334
Skin Sens. 1	H317
Muta. 2	H341
Carc. 1B	H350
Repr. 1B	H360
STOT RE 1	H372
Aquatic Acute 1	H400
Aquatic Chronic 3	H412

Full text of hazard classes, H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS08

GHS09

Signal word (CLP) :

Danger

Contains :

Cobalt, Nickel

Hazard statements (CLP) :

H317 - May cause an allergic skin reaction.

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

	H341 - Suspected of causing genetic defects. H350 - May cause cancer. H360 - May damage fertility or the unborn child. H372 - Causes damage to organs through prolonged or repeated exposure. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P201 - Obtain special instructions before use. P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308+P313 - IF exposed or concerned: Get medical advice/attention. P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor. P391 - Collect spillage.
Unknown acute toxicity (CLP) - SDS	: 25% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 100 % of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 25% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))
Unknown hazards to the aquatic environment (CLP)	: Contains 5 % of components with unknown hazards to the aquatic environment

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Tungsten carbide	CAS-No.: 12070-12-1 EC-No.: 235-123-0	55 – 95	Acute Tox. 3 (Inhalation:vapour), H331 (ATE=3 mg/l/4h)
Cobalt	CAS-No.: 7440-48-4 EC-No.: 231-158-0 EC Index-No.: 027-001-00-9	≤ 30	Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350 Repr. 1B, H360F Aquatic Acute 1, H400 Aquatic Chronic 4, H413
Nickel substance with national workplace exposure limit(s) (DE) (Note S)(Note 7)	CAS-No.: 7440-02-0 EC-No.: 231-111-4 EC Index-No.: 028-002-00-7 REACH-no: 01-2119438727-29	≤ 30	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Tantalum carbide (TaC)	CAS-No.: 12070-06-3 EC-No.: 235-118-3	≤ 20	STOT RE 2, H373
Vanadium carbide (VC)	CAS-No.: 12070-10-9 EC-No.: 235-122-5	≤ 5	Acute Tox. 3 (Inhalation:vapour), H331 (ATE=3 mg/l/4h)

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Chromium substance with national workplace exposure limit(s) (DE); substance with a Community workplace exposure limit	CAS-No.: 7440-47-3 EC-No.: 231-157-5	≤ 5	Not classified.

Note 7 : Alloys containing nickel are classified for skin sensitisation when the release rate of 0,5 µg Ni/cm²/week, as measured by the European Standard reference test method EN 1811, is exceeded.

Note S : This substance may not require a label according to Article 17 (see section 1.3 of Annex I) (Table 3.1).

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: If dust is inhaled. Remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
First-aid measures after skin contact	: If dust is on skin. Wash with plenty of Water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: If dust is in eyes. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: If dust is swallowed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

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

Symptoms/effects after inhalation	: Dust may cause respiratory tract irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact	: Dust may cause skin irritation. Repeated exposure may cause skin dryness or cracking. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Dust may cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/effects after ingestion	: Dust may be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic symptoms	: May cause cancer

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

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire. Dry sand. ABC-powder.
Unsuitable extinguishing media	: Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Products of combustion may include, and are not limited to: oxides of carbon. Metal oxides. Irritating fumes.
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5.3. Advice for firefighters

Protection during firefighting	: Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters. Collect spillage. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain spill, then place in a suitable container. Minimize dust generation. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).
Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Do not breathe dust. Do not swallow. When using do not eat, drink or smoke. Good housekeeping is important to prevent accumulation of dust. Avoid dust formation.
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Take off contaminated clothing and wash it before reuse. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place. Store locked up. Avoid extreme temperatures and humidity.

7.3. Specific end use(s)

Cutting tools mainly for metallic materials, wear resistant tools for plastic forming process, tools for macadam, civil engineering, and urban development, etc.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

Nickel (7440-02-0)

Germany - Occupational Exposure Limits (TRGS 900)

AGW (OEL TWA) [1]	0.03 mg/m ³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed-respirable fraction) 0.006 mg/m ³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed-inhalable fraction)
Chemical category	Skin sensitization

Chromium (7440-47-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	2 mg/m ³
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	2 mg/m ³ (except the one listed by name-inhalable fraction)

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Not applicable

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:

Safety glasses or goggles are recommended when using product.

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Wear suitable gloves resistant to chemical penetration

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. [In case of inadequate ventilation] wear respiratory protection.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: dark grey.
Odour	: odorless
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not available

Boiling point	: Refer to component values below
Flammability	: Not available
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: Not available
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Insoluble.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Refer to component values below
Vapour pressure at 50 °C	: Not available
Density	: Not available
Relative density	: 11 – 15.5
Relative vapour density at 20 °C	: Not applicable
Particle size	: Not available
Particle size distribution	: Not available
Particle shape	: Not available
Particle aspect ratio	: Not available
Particle aggregation state	: Not available
Particle agglomeration state	: Not available
Particle specific surface area	: Not available
Particle dustiness	: Not available

Tungsten carbide (12070-12-1)

Boiling point	6000 °C Atm. press.: 1013 hPa
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Tantalum carbide (TaC) (12070-06-3)

Boiling point	4780 °C Atm. press.: 101,325 kPa
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Vanadium carbide (VC) (12070-10-9)

Boiling point	3900 °C Atm. press.: 1013 mBar
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Cobalt (7440-48-4)

Boiling point	2870 °C
Vapour pressure	0.00007 hPa (at 1050 °C)

Nickel (7440-02-0)

Vapour pressure	1 mm Hg (at 1810 °C)
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Chromium (7440-47-3)

Boiling point	2642 °C
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9.2. Other information**9.2.1. Information with regard to physical hazard classes**

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions. May ignite spontaneously in contact with air.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Reacts with oxygen in air.

10.4. Conditions to avoid

Heat. Incompatible materials. Humidity.

10.5. Incompatible materials

Strong oxidizers. Strong acids. Hydrogen peroxide. Nitric acid. Ammonium nitrate (AN). Nitrogen dioxide. hydrazine nitrate. Acetylene.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon. cobalt oxide. Irritating fumes.

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified.

Acute toxicity (dermal) : Not classified.

Acute toxicity (inhalation) : Not classified.

Tungsten carbide (12070-12-1)

LD50 oral rat	> 2000 mg/kg bodyweight OECD Guideline 401
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat	> 5.3 mg/l/4h

Tantalum carbide (TaC) (12070-06-3)

LD50 oral rat	> 2000 mg/kg bodyweight OECD Guideline 423, EU Method B.1
LC50 inhalation rat	> 5.18 mg/l air OECD Guideline 403, Guideline: EPA OPPTS 870.1300

Vanadium carbide (VC) (12070-10-9)

LD50 oral rat	> 2000 mg/kg bodyweight OECD Guideline 423
LC50 inhalation rat	> 5.05 mg/l/4h

Cobalt (7440-48-4)

LD50 oral rat	6171 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight OECD Guideline 402
LC50 inhalation rat	< 0.05 mg/l/4h

Nickel (7440-02-0)

LD50 oral rat	> 9000 mg/kg
LC50 inhalation rat	> 10.2 mg/l (Exposure time: 1 h)

Chromium (7440-47-3)

LC50 inhalation rat	> 5.41 mg/l air OECD Guideline 403
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Unknown acute toxicity (CLP) - SDS	: 25% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 100% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 25% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))
Skin corrosion/irritation	: Not classified.
Additional information	: Based on available data, the classification criteria are not met.
Serious eye damage/irritation	: Not classified.
Additional information	: Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: Suspected of causing genetic defects.
Carcinogenicity	: May cause cancer.

Cobalt (7440-48-4)

IARC group	2B - Possibly carcinogenic to humans
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Nickel (7440-02-0)

IARC group	2B - Possibly carcinogenic to humans
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Chromium (7440-47-3)

IARC group	3 - Not classifiable
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Reproductive toxicity	: May damage fertility or the unborn child.
STOT-single exposure	: Not classified.
Additional information	: Based on available data, the classification criteria are not met.
STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure.

Tantalum carbide (TaC) (12070-06-3)

LOAEC (inhalation, rat,dust/mist/fume, 90 days)	0.15 mg/l air Animal: rat, Animal sex: male
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight OECD Guideline 422
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Vanadium carbide (VC) (12070-10-9)

NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight OECD Guideline 407
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Nickel (7440-02-0)

STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
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Aspiration hazard	: Not classified.
Additional information	: Based on available data, the classification criteria are not met.

11.2. Information on other hazards**11.2.1. Endocrine disrupting properties**

Endocrine disrupting properties	: The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605
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11.2.2. Other information

Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye
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SECTION 12: Ecological information**12.1. Toxicity**

Ecology - general	: Very toxic to aquatic life.
Unknown hazards to the aquatic environment (CLP)	: Contains 5 % of components with unknown hazards to the aquatic environment
Hazardous to the aquatic environment, short-term (acute)	: Very toxic to aquatic life.

Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.

Tungsten carbide (12070-12-1)	
LC50 - Fish [1]	> 1000 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 1 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
NOEC chronic fish	≥ 9.8 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '38 d'

Tantalum carbide (TaC) (12070-06-3)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)

Cobalt (7440-48-4)	
LC50 - Fish [1]	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
EC50 - Crustacea [1]	> 890 µg/l Test organisms (species): Daphnia magna

Nickel (7440-02-0)	
LC50 - Fish [1]	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
LC50 - Fish [2]	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 - Crustacea [1]	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 - Crustacea [2]	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 72h - Algae [1]	0.18 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 96h - Algae [1]	0.174 – 0.311 mg/l (Species: Pseudokirchneriella subcapitata [static])

Chromium (7440-47-3)	
EC50 - Crustacea [1]	13.1 – 14.7 mg/l Test organisms (species): Daphnia magna

12.2. Persistence and degradability

Cemented Carbide, Coated Cemented Carbide and Cemented Carbide Tools	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Cemented Carbide, Coated Cemented Carbide and Cemented Carbide Tools	
Bioaccumulative potential	Not established.

Cobalt (7440-48-4)	
BCF - Fish [1]	(no bioaccumulation)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

PBT : No
vPvB : No

Cemented Carbide, Coated Cemented Carbide and Cemented Carbide Tools	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

12.6. Endocrine disrupting properties

Endocrine disrupting properties : The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

12.7. Other adverse effects

Additional information : No other effects known

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

14.1. UN number or ID number

UN-No. (ADR) : Not regulated
 UN-No. (IMDG) : Not regulated
 UN-No. (IATA) : Not regulated

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not regulated
 Proper Shipping Name (IMDG) : Not regulated
 Proper Shipping Name (IATA) : Not regulated

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not regulated

IMDG

Transport hazard class(es) (IMDG) : Not regulated

IATA

Transport hazard class(es) (IATA) : Not regulated

14.4. Packing group

Packing group (ADR) : Not regulated
 Packing group (IMDG) : Not regulated
 Packing group (IATA) : Not regulated

14.5. Environmental hazards

Dangerous for the environment : Yes
 Marine pollutant : Yes
 Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

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

15.1.1. EU-Regulations

Contains no REACH candidate substance.

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Employment restrictions	: Observe restrictions according Act on the Protection of Working Mothers (MuSchG) Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)
Water hazard class (WGK)	: WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1)
Hazardous Incident Ordinance (12. BImSchV)	: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)
Storage class (LGK, TRGS 510)	: LGK 6.1D - Non-combustible substances of acute toxicity, category 3 / hazardous substances that are toxic or produce chronic effects

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

None.

Abbreviations and acronyms

	<p>°C – Degrees Celsius °F – Degrees Fahrenheit ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road. ACGIH – American Conference of Governmental Industrial Hygienists ATE – Acute Toxicity Estimate BCF – Bioconcentration Factor BEI – Biological Exposure Index CAS – Chemical Abstracts Service CLP – Regulation (EC) No 1272/2008 on the Classification, Labeling and Packaging of substances and mixtures. CMR – Carcinogen, Mutagen, Reproductive toxin cP – centipoise (unit of dynamic viscosity) cSt – centistokes (unit of kinematic viscosity) DNEL – Derived No-effect Level DMEL – Derived Minimal Effect Level EC50 – Half maximal effective concentration ECHA – European Chemicals Agency EC-No. – European Community number EU – European Union GHS – Globally Harmonized System of Classification and Labelling of Chemicals h – Hours IATA – International Air Transport Association IC50 – Inhibition concentration IDLH – Immediately Dangerous to Life or Health IMDG – International Maritime Dangerous Goods IOELV – Indicative Occupational Exposure Limit Value KIFS – Swedish Chemicals Agency's (KemI's) Code of Statutes kPa – kilopascal Koc – Adsorption Coefficient Kow – Octanol-Water Partition Coefficient LC50 – Median Lethal Concentration LD50 – Median Lethal Dose LOAEL – Lowest Observed Adverse Effect level mg/l – Milligram per liter mg/kg – Milligram per kilogram mg/m³ – Milligram per cubic meter Min – Minutes NIOSH – National Institute for Occupational Safety and Health NOEC – No Observed Effect Concentration NO(A)EL – No Observed (Adverse) Effect Level N.O.S. – Not Otherwise Specified OEL – Occupational Exposure Limit</p>
	<p>PBT - Persistent, Bioaccumulative and Toxic PCN – Poison Centre Notification PNEC – Predicted No Effect Concentration ppm – Parts per million PVC – Polyvinyl chloride REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 RID – European Agreement concerning the International Carriage of Dangerous Goods by Rail SDS – Safety Data Sheet STEL – Short Term Exposure Limit STOT – Specific Target Organ Toxicity SVHC – Substance of Very High Concern (CMR, vPvB, PBT) TDI – Tolerable Daily Intake TLV – Threshold Limit Value TWA – Time Weighted Average UFI – Unique Formulation Identifier UN – United Nations vPvB - Very Persistent and Very Bioaccumulative WEL – Workplace Exposure Limit WGK – Wassergefährdungsklasse – German water quality classification</p>

Data sources	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Other information	: None.

Full text of H- and EUH-statements	
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Aquatic Chronic 4	Hazardous to the aquatic environment – Chronic Hazard, Category 4
Carc. 1B	Carcinogenicity, Category 1B
Carc. 2	Carcinogenicity, Category 2
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H360F	May damage fertility.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
Muta. 2	Germ cell mutagenicity, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]		
Resp. Sens. 1	H334	Calculation method
Skin Sens. 1	H317	Calculation method
Muta. 2	H341	Calculation method
Carc. 1B	H350	Calculation method
Repr. 1B	H360	Calculation method
STOT RE 1	H372	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 3	H412	Calculation method

Safety Data Sheet (SDS), EU

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