



According to Regulation (EC) No. 1907/2006
 Revision date: 04.03.2016 Version 1.0

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Zirkon BioStar HT Smile Colour Blanks

1. Identification of the substance / Preparation and Company:

- 1.1 Product identifier
 Commercial product name: Zirkon BioStar HT Smile Colour Blanks
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
 Use of the Substance/Mixture Medical applications
- 1.3 Details of the supplier of the safety data sheet
 Manufacturer/Supplier: ERNST HINRICHS Dental GmbH
 Street / mailbox: Borsigstr. 1
 Country code. / postal code / city: D - 38644 Goslar
 Phone: 0 53 21 / 5 06 24
 Fax: 0 53 21 / 5 08 81
 E-mail / Website: info@hinrichs-dental.de / www.hinrichs-dental.de
 Further information obtainable from: ERNST HINRICHS Dental GmbH
- 1.4 Emergency telephone number
 ERNST HINRICHS Dental GmbH: +49 (0) 53 21 / 5 06 24 - 25 (Mon-Fri. 8 a.m. – 4 p.m.)

2. Hazards identification

- 2.1 Classification of the substance or mixture
 Classification (REGULATION (EC) No 1272/2008): Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.
- 2.2 Label elements
 Labelling (REGULATION (EC) No 1272/2008): Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.
- 2.3 Other hazards
 This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
 This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. Composition/information on ingredients

- 3.1 Mixtures
 Chemical nature: inorganic

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Zirconium oxide (ZrO ₂)	1314-23-4 215-227-2			>= 88 - <= 96
Yttrium oxide	1314-36-9 215-233-5			>= 5 - <= 10
Hafnium(IV) oxide	12055-23-1 235-013-2			>= 1 - <= 5
Dialuminium trioxide	1344-28-1 215-691-6			<= 1

For explanation of abbreviations see section 16.

4. First aid measures

- 4.1 Description of first aid measures
 If inhaled: Remove to fresh air.
 If symptoms persist, call a physician.
- In case of skin contact: Wash off with soap and water.



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| In case of eye contact: | Rinse with plenty of water.
If eye irritation persists, consult a specialist. |
| If swallowed: | Clean mouth with water and drink afterwards plenty of water. Obtain medical attention. |
| 4.2 Most important symptoms and effects, both acute and delayed | |
| Symptoms: | No information available. |
| Risks: | No information available. |
| 4.3 Indication of any immediate medical attention and special treatment needed | |
| Treatment: | No information available. |

5. Firefighting measures

- | | |
|---|--|
| 5.1 Extinguishing media | |
| Suitable extinguishing media: | The product itself does not burn.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media: | None known. |
| 5.2 Special hazards arising from the substance or mixture | |
| Specific hazards during firefighting: | None known. |
| Hazardous combustion products: | None known. |
| 5.3 Advice for firefighters | |
| Special protective equipment for firefighters: | In the event of fire, wear self-contained breathing apparatus. |
| Further information: | Prevent fire extinguishing water from contaminating surface water or the ground water system. |

6. Accidental release measures

- | | |
|---|---|
| 6.1 Personal precautions, protective equipment and emergency procedures | |
| Personal precautions: | Use personal protective equipment.
Avoid dust formation.
Avoid dust accumulation in enclosed space. |
| 6.2 Environmental precautions | |
| Environmental precautions: | Do not flush into surface water or sanitary sewer system. |
| 6.3 Methods and materials for containment and cleaning up | |
| Methods for cleaning up: | Use mechanical handling equipment.
Pick up and transfer to properly labelled containers. |
| 6.4 Reference to other sections | For personal protection see section 8. |

7. Handling and storage

- | | |
|--|--|
| 7.1 Precautions for safe handling | |
| Advice on safe handling: | Avoid dust formation. Provide sufficient air exchange and/or exhaust in work rooms. Avoid exceeding of the given occupational exposure limits (see section 8). |
| Advice on protection against fire and explosion: | No special precautions required. |
| Hygiene measures: | Handle in accordance with good industrial hygiene and safety practice. Keep working clothes separately. |
| 7.2 Conditions for safe storage, including any incompatibilities | |
| Requirements for storage areas and containers: | Store in accordance with the particular national regulations. |
| Further information on storage | |
| Conditions: | Store in tightly closed containers in a dry place. |
| 7.3 Specific end use(s) | |
| Specific use(s): | No data available. |



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8. Exposure controls/personal protection

8.1 Control parameters

Components	CAS-No	Value type (Form of exposure)	Control parameters	Basis
Zirconium oxide (ZrO ₂)	1314-23-4	TWA	5 mg/m ³ (Zirconium)	GB EH40
		STEL	10 mg/m ³ (Zirconium)	GB EH40
Dialuminium trioxide	Aluminium(III) oxide	TWA (Inhalable)	10 mg/m ³	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
		TWA (Respirable)	4 mg/m ³	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			

8.2 Exposure controls

Engineering measures:

Dust must be extracted directly at the point of origin.



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Personal protective equipment	
Eye protection:	Safety glasses.
Hand protection	Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.
Material:	
Remarks:	The data about break through time/strength of material is not valid for undissolved solids/dust.
Skin and body protection:	Protective suit.
Respiratory protection:	Respiratory protective device with particle filter EN 143 - P2 or P3

9. Physical and chemical properties

9.1	Information on basic physical and chemical properties	
	Appearance:	disc
	Colour:	white
	Odour:	odourless
	Odour Threshold:	No data available
	pH:	No data available
	Melting point/range:	No data available
	Boiling point/boiling range:	No data available
	Flash point:	Not applicable
	Evaporation rate:	Not applicable
	Flammability:	negative
	Lower explosion limit:	No data available
	Upper explosion limit:	No data available
	Vapour pressure:	No data available
	Relative vapour density:	Not applicable
	Density:	> 6 g/cm ³
	Water solubility:	No data available
	Partition coefficient: n-octanol/water:	Not applicable
	Decomposition temperature:	Not applicable
	Viscosity	
	Viscosity, dynamic:	Not applicable
	Viscosity, kinematic:	Not applicable
	Explosive properties:	Not explosive
	Oxidizing properties:	Not oxidizing
9.2	Other information	
	Dust explosion class:	No data available

10. Stability and reactivity

10.1	Reactivity:	No hazards to be specially mentioned.
10.2	Chemical stability:	Stable under normal conditions.
10.3	Possibility of hazardous reactions	None known.
10.4	Conditions to avoid	None known.
10.5	Incompatible materials	
	Materials to avoid:	None known.
10.6	Hazardous decomposition products:	Not applicable

11. Toxicological information

11.1	Information on toxicological effects	
	Acute toxicity	
	<u>Product:</u>	
	Acute oral toxicity:	Remarks: No data available
	Acute inhalation toxicity:	Remarks: No data available
	Acute dermal toxicity:	Remarks: No data available

Components:
 Zirconium dioxide :



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Acute oral toxicity:	Remarks: No data available
Acute inhalation toxicity:	Remarks: No data available
Acute dermal toxicity:	Remarks: No data available
Yttrium oxide :	
Acute oral toxicity:	LD50 rat: > 5,000 mg/kg
	Method: No information available.
	GLP: No information available.
Acute inhalation toxicity:	Remarks: No data available
Acute dermal toxicity:	Remarks: No data available

Hafnium(IV) oxide :	
Acute oral toxicity:	Remarks: No data available
Acute inhalation toxicity:	Remarks: No data available
Acute dermal toxicity:	Remarks: No data available

Dialuminium trioxide:	
Acute oral toxicity:	Remarks: No data available
Acute inhalation toxicity:	Remarks: No data available
Acute dermal toxicity:	Remarks: No data available

Skin corrosion/irritation

<u>Product:</u>	Remarks: No data available
<u>Components:</u>	
Zirconium oxide (ZrO ₂):	Remarks: No data available
Yttrium oxide:	Species: Rabbit
	Exposure time: 24 h
	Method: No information available.
	Result: No skin irritation
	GLP: No information available.
Hafnium(IV) oxide:	Remarks: No data available
Dialuminium trioxide:	Remarks: No data available

Serious eye damage/eye irritation

<u>Product:</u>	Remarks: No data available
<u>Components:</u>	
Zirconium oxide (ZrO ₂):	Remarks: No data available
Yttrium oxide:	Method: No information available.
	Result: Mild eye irritation
	GLP: No information available.
Hafnium(IV) oxide:	Remarks: No data available
Dialuminium trioxide:	Remarks: No data available

Respiratory or skin sensitisation

<u>Product:</u>	Remarks: No data available
<u>Components:</u>	
Zirconium oxide (ZrO ₂):	Remarks: No data available
Yttrium oxide:	Remarks: No data available
Hafnium(IV) oxide:	Remarks: No data available
Dialuminium trioxide:	Remarks: No data available

Germ cell mutagenicity

<u>Product:</u>	
Genotoxicity in vitro:	Remarks: No data available
Genotoxicity in vivo:	Remarks: No data available



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Components:

Zirconium oxide (ZrO ₂):	
Genotoxicity in vitro:	Remarks: No data available
Genotoxicity in vivo:	Remarks: No data available
Yttrium oxide:	
Genotoxicity in vitro:	Remarks: No data available
Genotoxicity in vivo:	Remarks: No data available
Hafnium(IV) oxide:	
Genotoxicity in vitro:	Remarks: No data available
Genotoxicity in vivo:	Remarks: No data available
Dialuminium trioxide:	
Genotoxicity in vitro:	Remarks: No data available
Genotoxicity in vivo:	Remarks: No data available

Carcinogenicity

<u>Product:</u>	Remarks: No data available
<u>Components:</u>	
Zirconium oxide (ZrO ₂):	Remarks: No data available
Yttrium oxide:	Remarks: No data available
Hafnium(IV) oxide:	Remarks: No data available
Dialuminium trioxide:	Remarks: No data available

Reproductive toxicity

<u>Product:</u>	
Effects on fertility:	Remarks: No data available
Effects on foetal development:	Remarks: No data available

Components:

Zirconium oxide (ZrO ₂):	
Effects on fertility:	Remarks: No data available
Effects on foetal development:	Remarks: No data available
Yttrium oxide:	
Effects on fertility:	Remarks: No data available
Effects on foetal development:	Remarks: No data available
Hafnium(IV) oxide:	
Effects on fertility:	Remarks: No data available
Effects on foetal development:	Remarks: No data available
Dialuminium trioxide:	
Effects on fertility:	Remarks: No data available
Effects on foetal development:	Remarks: No data available

STOT - single exposure

<u>Product:</u>	Remarks: No data available
<u>Components:</u>	
Zirconium oxide (ZrO ₂):	Remarks: No data available
Yttrium oxide:	Remarks: No data available
Hafnium(IV) oxide:	Remarks: No data available
Dialuminium trioxide:	Remarks: No data available

STOT - repeated exposure

<u>Product:</u>	Remarks: No data available
<u>Components:</u>	
Zirconium oxide (ZrO ₂):	Remarks: No data available
Yttrium oxide:	Remarks: No data available
Hafnium(IV) oxide:	Remarks: No data available
Dialuminium trioxide:	Remarks: No data available



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Repeated dose toxicity

<u>Product:</u>	Remarks: No data available
<u>Components:</u>	
Zirconium oxide (ZrO ₂):	Remarks: No data available
Yttrium oxide:	Remarks: No data available
Hafnium(IV) oxide:	Remarks: No data available
Dialuminium trioxide:	Remarks: No data available

Further information

<u>Product:</u>	Remarks: No data available
<u>Components:</u>	
Zirconium oxide (ZrO ₂):	Remarks: No data available
Yttrium oxide:	Remarks: No data available
Hafnium(IV) oxide:	Remarks: No data available
Dialuminium trioxide:	Remarks: No data available

12. Ecological information

12.1 Toxicity

<u>Product:</u>	
Toxicity to fish:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates:	Remarks: No data available
Toxicity to algae:	Remarks: No data available
Toxicity to fish (Chronic toxicity):	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	Remarks: No data available
Toxicity to soil dwelling organisms:	Remarks: No data available
Plant toxicity:	Remarks: No data available
Toxicity to terrestrial organisms:	Remarks: No data available

Components:

Zirconium oxide (ZrO ₂):	
Toxicity to fish:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates:	Remarks: No data available
Toxicity to algae:	Remarks: No data available
Toxicity to bacteria:	Remarks: No data available
Toxicity to fish (Chronic toxicity):	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	Remarks: No data available
Toxicity to soil dwelling Organisms:	Remarks: No data available
Plant toxicity:	Remarks: No data available
Toxicity to terrestrial organisms:	Remarks: No data available

Yttrium oxide:	
Toxicity to fish:	no data available
Toxicity to daphnia and other aquatic invertebrates:	no data available
Toxicity to algae:	no data available
Toxicity to bacteria:	no data available
Toxicity to fish (Chronic toxicity):	no data available



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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	Remarks: No data available
Toxicity to soil dwelling organisms:	Remarks: No data available
Plant toxicity:	Remarks: No data available
Toxicity to terrestrial organisms:	Remarks: No data available
Hafnium(IV) oxide:	
Toxicity to fish:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates:	Remarks: No data available
Toxicity to algae:	Remarks: No data available
Toxicity to bacteria:	Remarks: No data available
Toxicity to fish (Chronic toxicity):	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	Remarks: No data available
Toxicity to soil dwelling organisms :	Remarks: No data available
Plant toxicity:	Remarks: No data available
Toxicity to terrestrial organisms:	Remarks: No data available
Dialuminium trioxide:	
Toxicity to fish:	LC50 (Salmo trutta): > 100 mg/l Test Type: semi-static test Method: OECD Test Guideline 203 GLP: No information available.
Toxicity to daphnia and other aquatic invertebrates:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Test Type: semi-static test Method: OECD Test Guideline 202 GLP: No information available. Remarks: Reproduction Test
Toxicity to algae:	ErC50 (Pseudokirchneriella subcapitata): > 100 mg/l Test Type: static test Method: OECD Test Guideline 201 GLP: No information available. Remarks: Growth rate
Toxicity to bacteria:	Remarks: No data available
Toxicity to fish (Chronic toxicity):	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	Remarks: No data available
Toxicity to soil dwelling organisms:	Remarks: No data available
Plant toxicity:	Remarks: No data available
Toxicity to terrestrial organisms:	Remarks: No data available

12.2 Persistence and degradability

<u>Product:</u>	
Biodegradability:	Remarks: The methods for determining biodegradability are not applicable to inorganic substances.
Stability in water:	Remarks: No data available

Components:

Zirconium oxide (ZrO2):	
Biodegradability:	Remarks: The methods for determining biodegradability are not applicable to inorganic substances.
Stability in water:	Remarks: No data available



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Yttrium oxide:
 Biodegradability: Remarks: The methods for determining biodegradability are not applicable to inorganic substances.
 Stability in water: Remarks: No data available

Hafnium(IV) oxide:
 Biodegradability: Remarks: The methods for determining biodegradability are not applicable to inorganic substances.
 Stability in water: Remarks: No data available

Dialuminium trioxide:
 Biodegradability: Remarks: The methods for determining biodegradability are not applicable to inorganic substances.
 Stability in water: Remarks: No data available

12.3 Bioaccumulative potential

Product:
 Bioaccumulation: Remarks: This mixture contains no substance considered to be persistent, bioaccumulating not toxic (PBT).

Components:
 Zirconium oxide (ZrO₂):
 Bioaccumulation: Remarks: This mixture contains no substance considered to be persistent, bioaccumulating not toxic (PBT).
 Partition coefficient: noctanol/ water: Remarks: Not applicable

Yttrium oxide:
 Bioaccumulation: Remarks: This mixture contains no substance considered to be persistent, bioaccumulating not toxic (PBT).
 Partition coefficient: noctanol/ water: Remarks: Not applicable

Hafnium(IV) oxide:
 Bioaccumulation: Remarks: This mixture contains no substance considered to be persistent, bioaccumulating not toxic (PBT).
 Partition coefficient: noctanol/ water: Remarks: Not applicable

Dialuminium trioxide:
 Bioaccumulation: Remarks: This mixture contains no substance considered to be persistent, bioaccumulating not toxic (PBT).
 Partition coefficient: noctanol/ water: Remarks: Not applicable

12.4 Mobility in soil

Product:
 Mobility: Remarks: No data available

Components:
 Zirconium oxide (ZrO₂):
 Mobility: Remarks: No data available

Yttrium oxide :
 Mobility: Remarks: No data available

Hafnium(IV) oxide:
 Mobility: Remarks: No data available

Dialuminium trioxide:
 Mobility: Remarks: No data available



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12.5 Results of PBT and vPvB assessment

Product:

Assessment: This mixture contains no substance considered to be persistent, bioaccumulating, not toxic (PBT).
 This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:

Zirconium oxide (ZrO₂):

Assessment: This substance is not considered to be persistent, bioaccumulating not toxic (PBT).

Yttrium oxide:

Assessment: This substance is not considered to be persistent, bioaccumulating not toxic (PBT).

Hafnium(IV) oxide:

Assessment: This substance is not considered to be persistent, bioaccumulating not toxic (PBT).

Dialuminium trioxide:

Assessment: This substance is not considered to be persistent, bioaccumulating not toxic (PBT).

12.6 Other adverse effects

Product:

Ozone-Depletion Potential: Remarks: No data available
 Additional ecological information: None known.

Components:

Zirconium oxide (ZrO₂):

Ozone-Depletion Potential: Remarks: No data available
 Additional ecological information: None known.

Yttrium oxide:

Ozone-Depletion Potential: Remarks: No data available
 Additional ecological information: None known.

Hafnium(IV) oxide:

Ozone-Depletion Potential: Remarks: No data available
 Additional ecological information: None known.

Dialuminium trioxide:

Ozone-Depletion Potential: Remarks: No data available
 Additional ecological information: None known.

13. Disposal considerations

13.1 Waste treatment methods

Product: In accordance with local and national regulations.
 According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
 Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

14. Transport information

14.1 UN number

ADR: Not dangerous goods
 IMDG: Not dangerous goods
 IATA: Not dangerous goods

14.2 Proper shipping name

ADR: Not dangerous goods



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IMDG:	Not dangerous goods
IATA:	Not dangerous goods
14.3 Transport hazard class	
ADR:	Not dangerous goods
IMDG:	Not dangerous goods
IATA:	Not dangerous goods
14.4 Packing group	
ADR:	Not dangerous goods
IMDG:	Not dangerous goods
IATA:	Not dangerous goods
14.5 Environmental hazards	
ADR:	Not dangerous goods
IMDG:	Not dangerous goods
IATA:	Not dangerous goods
14.6 Special precautions for user	For personal protection see section 8.
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No data available

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:	Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major accident hazards involving dangerous substances. Not applicable
The components of this product are reported in the following inventories:	
REACH	On the inventory, or in compliance with the inventory
CH INV	On the inventory, or in compliance with the inventory
TSCA	On TSCA Inventory
DSL	All components of this product are on the Canadian DSL
AICS	Not in compliance with the inventory
NZIoC	Not in compliance with the inventory
ENCS	On the inventory, or in compliance with the inventory
ISHL	On the inventory, or in compliance with the inventory
KECI	On the inventory, or in compliance with the inventory
PICCS	Not in compliance with the inventory
IECSC	On the inventory, or in compliance with the inventory
15.2 Chemical Safety Assessment:	No.

16. Other information

Full text of other abbreviations
 (Q)SAR - (Quantitative) Structure Activity Relationship; ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; DIN - Standard of the German Institute for Standardisation; ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention;



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PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TRGS - Technical Rule for Hazardous Substances; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice

Further information:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.