according to Regulation (EC) No. 1907/2006 (REACH)

# ROTH

## Silver iodide ≥99 %, extra pure

article number: **6630**Version: **2.0 en**date of compilation: 2017-02-02
Revision: 2021-08-02

Replaces version of: 2017-02-02

Version: (1)

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

## 1.1 Product identifier

Identification of the substance Silver iodide ≥99 %, extra pure

Article number 6630

Registration number (REACH)

It is not required to list the identified uses be-

cause the substance is not subject to registration

according to REACH (< 1 t/a).

EC number 232-038-0 CAS number 7783-96-2

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

Relevant identified uses: Laboratory chemical

Laboratory and analytical use

Uses advised against: Do not use for products which come into contact

with foodstuffs. Do not use for private purposes

(household).

## 1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

**Telephone:**+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 **e-mail:** sicherheit@carlroth.de **Website:** www.carlroth.de

Competent person responsible for the safety data :Department Health, Safety and Environment

sheet:

e-mail (competent person): sicherheit@carlroth.de

## 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

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## **SECTION 2: Hazards identification**

## 2.1 Classification of the substance or mixture

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

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
4.1A	Hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	Hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Spillage and fire water can cause pollution of watercourses.

## 2.2 Label elements

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

Signal word Warning

**Pictograms** 

GHS09



## **Hazard statements**

H410 Very toxic to aquatic life with long lasting effects

## **Precautionary statements**

## **Precautionary statements - prevention**

P273 Avoid release to the environment

Labelling of packages where the contents do not exceed 125 ml

Signal word: Warning

Symbol(s)



#### 2.3 Other hazards

#### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

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## **SECTION 3: Composition/information on ingredients**

## 3.1 Substances

Name of substance Silver iodide

Molecular formula AgI

Molar mass 234,8 g/<sub>mol</sub>
CAS No 7783-96-2
EC No 232-038-0

## Substance, Specific Conc. Limits, M-factors, ATE

Specific Conc. Limits	M-Factors	ATE	Exposure route
-	M-factor (chronic) = 10.0	-	

## **SECTION 4: First aid measures**

## 4.1 Description of first aid measures



## **General notes**

Take off contaminated clothing.

## Following inhalation

Provide fresh air.

## Following skin contact

Rinse skin with water/shower.

## Following eye contact

Rinse cautiously with water for several minutes.

## Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Symptoms and effects are not known to date.

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

none

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## **SECTION 5: Firefighting measures**

## 5.1 Extinguishing media



## Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings water, foam, dry extinguishing powder, ABC-powder

## Unsuitable extinguishing media

water jet

## 5.2 Special hazards arising from the substance or mixture

Non-combustible.

## **Hazardous combustion products**

Hydrogen iodide (HI), Metal oxide smoke, toxic

## 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## **SECTION 6: Accidental release measures**

## 6.1 Personal precautions, protective equipment and emergency procedures



## For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe dust.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

## 6.3 Methods and material for containment and cleaning up

## Advice on how to contain a spill

Covering of drains. Take up mechanically.

## Advice on how to clean up a spill

Take up mechanically. Control of dust.

## Other information relating to spills and releases

Place in appropriate containers for disposal.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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## **SECTION 7: Handling and storage**

## Precautions for safe handling

Avoid dust formation.

## Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits.

## Measures to protect the environment

Avoid release to the environment.

## Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

#### Conditions for safe storage, including any incompatibilities 7.2

Store in a dry place.

## **Incompatible substances or mixtures**

Observe hints for combined storage.

## Consideration of other advice:

## **Ventilation requirements**

Use local and general ventilation.

## Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

#### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

#### 8.1 **Control parameters**

#### **National limit values**

## **Occupational exposure limit values (Workplace Exposure Limits)**

Coun try	Name of agent	CAS No	Identifi- er	TWA [mg/ m³]	STEL [mg/ m³]	Ceil- ing-C [mg/ m³]	Nota- tion	Source
GB	dust		WEL	10			i	EH40/2005
GB	dust		WEL	4			r	EH40/2005

**Notation** 

Ceiling value is a limit value above which exposure should not occur Inhalable fraction Ceiling-C

Respirable fraction

Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified) STEL

Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 **TWA** 

hours time-weighted average (unless otherwise specified)

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#### **Human health values**

Relevant DNELs and other threshold levels						
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time		
DNEL	0,22 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects		

## **Environmental values**

Relevant	Relevant PNECs and other threshold levels						
End- point	Threshold level	Organism	Environmental com- partment	Exposure time			
PNEC	0,025 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)			
PNEC	0,86 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (single instance)			
PNEC	0,04 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (single instance)			

## 8.2 Exposure controls

Individual protection measures (personal protective equipment)

## **Eye/face protection**



Use safety goggle with side protection.

## Skin protection



## hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

## type of material

NBR (Nitrile rubber)

material thickness

>0,11 mm

· breakthrough times of the glove material

>480 minutes (permeation: level 6)

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## • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

## **Respiratory protection**





Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

## **Environmental exposure controls**

Keep away from drains, surface and ground water.

## **SECTION 9: Physical and chemical properties**

## 9.1 Information on basic physical and chemical properties

Physical state solid

Form powder, crystalline

Colour light yellow Odour odourless

Melting point/freezing point 552 – 558 °C at 1.013 hPa Boiling point or initial boiling point and boiling 1.506 °C at 1.013 hPa

range

Flammability non-combustible
Lower and upper explosion limit not determined
Flash point not applicable
Auto-ignition temperature not determined
Decomposition temperature not relevant
pH (value) not applicable
Kinematic viscosity not relevant

Solubility(ies)

Water solubility (The study does not need to be conducted be-

cause the substance is known to be insoluble in

water)

Partition coefficient

Partition coefficient n-octanol/water (log value): not relevant (inorganic)

Vapour pressure not determined

Density  $\sim 5,67 \, {\rm g/cm^3}$  at 20 °C

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Relative vapour density information on this property is not available

Particle characteristics No data available.

Other safety parameters

Oxidising properties none

9.2 Other information

Information with regard to physical hazard

classes:

hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics: There is no additional information.

## **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

## 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

## 10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser

## 10.4 Conditions to avoid

UV-radiation/sunlight.

## 10.5 Incompatible materials

There is no additional information.

## 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## **SECTION 11: Toxicological information**

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

## Classification according to GHS (1272/2008/EC, CLP)

#### **Acute toxicity**

Shall not be classified as acutely toxic.

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

## Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

## Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

#### **Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

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## Carcinogenicity

Shall not be classified as carcinogenic.

## **Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

## Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

## Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

## **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

## Symptoms related to the physical, chemical and toxicological characteristics

#### If swallowed

Data are not available.

## • If in eyes

Data are not available.

#### If inhaled

Data are not available.

#### • If on skin

Data are not available.

#### Other information

This information is based upon the present state of our knowledge.

## 11.2 Endocrine disrupting properties

Not listed.

## 11.3 Information on other hazards

There is no additional information.

## **SECTION 12: Ecological information**

#### 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

## Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
LC50	0,22 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	ECHA	48 h

## **Biodegradation**

The methods for determining the biological degradability are not applicable to inorganic substances.

## 12.2 Process of degradability

Data are not available.

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## 12.3 Bioaccumulative potential

Data are not available.

#### 12.4 Mobility in soil

Data are not available.

#### 12.5 Results of PBT and vPvB assessment

Data are not available.

## 12.6 Endocrine disrupting properties

Not listed.

#### 12.7 Other adverse effects

Data are not available.

## **SECTION 13: Disposal considerations**

## 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

## Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

## Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

## 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Waste catalogue ordinance (Germany).

#### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

## 14.1 UN number or ID number

ADR/RID/ADN UN 3077
IMDG-Code UN 3077
ICAO-TI UN 3077

#### 14.2 UN proper shipping name

ADR/RID/ADN ENVIRONMENTALLY HAZARDOUS SUBSTANCE,

SOLID, N.O.S.

IMDG-Code ENVIRONMENTALLY HAZARDOUS SUBSTANCE,

SOLID, N.O.S.

ICAO-TI Environmentally hazardous substance, solid,

n.o.s.

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	Technical name	Silver iodide
14.3	Transport hazard class(es)	
	ADR/RID/ADN	9
	IMDG-Code	9
	ICAO-TI	9
14.4	Packing group	
	ADR/RID/ADN	III
	IMDG-Code	III
	ICAO-TI	III
14.5	Environmental hazards	hazardous to the aquatic environment

## 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

## 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

## 14.8 Information for each of the UN Model Regulations

## Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Particulars in the transport document	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (Silver iodide), 9, III, (-)
Classification code	M7
Danger label(s)	9, "Fish and tree"
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 335, 375, 601
Excepted quantities (EQ)	E1
Limited quantities (LO)	5 ka

Limited quantities (LQ) 5 kg

Transport category (TC) 3

Tunnel restriction code (TRC) 
Hazard identification No 90

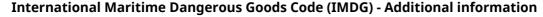
Emergency Action Code 2Z

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Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE,

SOLID, N.O.S.

Particulars in the shipper's declaration UN3077, ENVIRONMENTALLY HAZARDOUS SUB-

STANCE, SOLID, N.O.S., (Silver iodide), 9, III

Marine pollutant yes (hazardous to the aquatic environment), (Silver iodide)

Danger label(s) 9, "Fish and tree"

Special provisions (SP) 274, 335, 966, 967, 969

Excepted quantities (EQ) E1
Limited quantities (LQ) 5 kg
EmS F-A, S-F

Stowage category A

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name Environmentally hazardous substance, solid,

n.o.s.

Particulars in the shipper's declaration UN3077, Environmentally hazardous substance,

solid, n.o.s., (Silver iodide), 9, III

Environmental hazards yes (hazardous to the aquatic environment)

Danger label(s) 9, "Fish and tree"

Special provisions (SP) A97, A158, A179, A197, A215

Excepted quantities (EQ) E1
Limited quantities (LQ) 30 kg

## **SECTION 15: Regulatory information**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

not listed

List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list

Not listed.

**Seveso Directive** 

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2012/	2012/18/EU (Seveso III)						
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes				
E1	environmental hazards (hazardous to the aquatic environment, cat. 1)	100 200	56)				

#### **Notation**

56) Hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

## **Deco-Paint Directive**

VOC content	0 % 0 <sup>9</sup> / <sub>1</sub>

#### **Industrial Emissions Directive (IED)**

VOC content	0 %
VOC content	0 g/l

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

## **Water Framework Directive (WFD)**

## List of pollutants (WFD)

Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Silver iodide	Substances and preparations, or the breakdown products of such, which have been proved to pos- sess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine- related functions in or via the aquatic environment		A)	
Silver iodide	Metals and their compounds		A)	

#### Legend

A) Indicative list of the main pollutants

Regulation on the marketing and use of explosives precursors

not listed

**Regulation on drug precursors** 

not listed

Regulation on substances that deplete the ozone layer (ODS)

not listed

Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

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## Regulation on persistent organic pollutants (POP)

not listed

#### **National inventories**

Country	Inventory	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

Legend

AICS Australian Inventory of Chemical Substances
CSCL-ENCS List of Existing and New Chemical Substances (CSCL-ENCS)
DSL Domestic Substances List (DSL)
ECSI EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC Inventory of Existing Chemical Substances Produced or Imported in China KECI Korea Existing Chemicals Inventory
NZIOC New Zealand Inventory of Chemicals
PICCS Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg. REACH registered substances
TCSI Taiwan Chemical Substances Inventory

Taiwan Chemical Substance Inventory

**TSCA Toxic Substance Control Act** 

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## **SECTION 16: Other information**

## **Indication of changes (revised safety data sheet)**

Alignment to regulation: Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU

Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.1		Classification according to Regulation (EC) No 1272/2008 (CLP): change in the listing (table)	yes
2.1	Remarks: For full text of Hazard- and EU Hazard-state- ments: see SECTION 16.		yes
2.1		The most important adverse physicochemical, human health and environmental effects: Spillage and fire water can cause pollution of watercourses.	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.2		Pictograms: change in the listing (table)	yes
2.3	Other hazards: There is no additional information.	Other hazards	yes
2.3		Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.	yes

## **Abbreviations and acronyms**

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de naviga- tion intérieures (European Agreement concerning the International Carriage of Dangerous Goods by In- land Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concern- ing the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identi fier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-li- cence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval

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Abbr.	Descriptions of used abbreviations
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula- tions concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
SVHC	Substance of Very High Concern
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

## Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

## List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

## Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

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