

Safety data sheet

Safe Work Australia - Code of Practice



Sodium azide ≥ 99%, p.a.

article number: **K305**
Version: **GHS 2.0 en**
Replaces version of: 2017-02-08
Version: (GHS 1)

date of compilation: 2017-02-08
Revision: 2020-01-14

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

1.1 Product identifier

Identification of the substance	Sodium azide
Article number	K305
Registration number (REACH)	01-2119457019-37-xxxx
Index No	011-004-00-7
EC number	247-852-1
CAS number	26628-22-8

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

Identified uses: laboratory chemical
laboratory and analytical use

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 sheet: Department Health, Safety and Environment

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

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

Emergency information service

Poison Centre Munich: +49/(0)89 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

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Classification acc. to GHS			
Section	Hazard class	Hazard class and category	Hazard statement
3.1O	acute toxicity (oral)	(Acute Tox. 2)	H300
3.1D	acute toxicity (dermal)	(Acute Tox. 1)	H310
3.1I	acute toxicity (inhal.)	(Acute Tox. 2)	H330
3.9	specific target organ toxicity - repeated exposure	(STOT RE 2)	H373

Supplemental hazard information

Code	Supplemental hazard information
EUH032	contact with acids liberates very toxic gas

2.2 Label elements

Labelling GHS

Signal word

Danger

Pictograms

GHS06, GHS08



Hazard statements

H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled
H373 May cause damage to organs (brain) through prolonged or repeated exposure

Precautionary statements

Precautionary statements - prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P262 Do not get in eyes, on skin, or on clothing.
P280 Wear protective gloves/protective clothing.

Precautionary statements - response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P361 Remove/take off immediately all contaminated clothing.

Precautionary statements - storage

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

Supplemental hazard information

EUH032 Contact with acids liberates very toxic gas.

Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

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Symbol(s)



H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P262 Do not get in eyes, on skin, or on clothing.

P280 Wear protective gloves/protective clothing.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P361 Remove/take off immediately all contaminated clothing.

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

EUH032 Contact with acids liberates very toxic gas.

2.3 Other hazards

There is no additional information.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	Sodium azide
Index No	011-004-00-7
Registration number (REACH)	01-2119457019-37-xxxx
EC number	247-852-1
CAS number	26628-22-8
Molecular formula	N_3Na
Molar mass	65.01 g/mol

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off immediately all contaminated clothing. Self-protection of the first aider. Symptoms can occur only after several hours.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

After contact with skin, wash immediately with plenty of water. Call a physician in any case.

Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Rinse mouth immediately and drink plenty of water. Call a physician immediately.

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4.2 Most important symptoms and effects, both acute and delayed

Irritant effects, Nausea, Vomiting, Headache, Vertigo, Circulatory collapse, Unconsciousness, Acute respiratory distress, Seizures

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings
water spray, foam, dry extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible.

Hazardous combustion products

In case of fire may be liberated: nitrogen oxides (NO_x)

5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Do not breathe dust. Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Provide adequate ventilation.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

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.

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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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use extractor hood (laboratory). Handle and open container with care. Clear contaminated areas thoroughly.

Advice on general occupational hygiene

When using do not eat or drink. Thorough skin-cleansing after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a dry place.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice

Store locked up.

- **Ventilation requirements**

Use local and general ventilation.

- **Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 – 25 °C.

- **Packaging compatibilities**

Keep only in original container.

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)

Country	Name of agent	CAS No	Notation	Identifier	TWA [mg/m ³]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Source
AU	sodium azide	26628-22-8		WES			0.11	0.3	WES

Notation

Ceiling-C
STEL

Ceiling value is a limit value above which exposure should not occur
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)

TWA

Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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Relevant DNELs/DMELs/PNECs and other threshold levels

• human health values

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	0.164 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	46.7 µg/kg	human, dermal	worker (industry)	chronic - systemic effects

• environmental values

Endpoint	Threshold level	Environmental compartment	Exposure time
PNEC	0.35 µg/l	freshwater	short-term (single instance)
PNEC	30 µg/l	sewage treatment plant (STP)	short-term (single instance)
PNEC	16.7 µg/kg	freshwater sediment	short-term (single instance)
PNEC	0.72 µg/kg	marine sediment	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. Check leak-tightness/impermeability prior to use. 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)

• other protection measures

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

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recommended.

Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P3 (filters at least 99,95 % 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

Appearance

Physical state	solid (crystalline)
Colour	colourless - white
Odour	odourless
Odour threshold	No data available

Other physical and chemical parameters

pH (value)	~ 10 (water: 10 g/l, 20 °C)
Melting point/freezing point	~ 370 °C
Initial boiling point and boiling range	This information is not available.
Flash point	not applicable
Evaporation rate	no data available
Flammability (solid, gas)	These information are not available
<u>Explosive limits</u>	
• lower explosion limit (LEL)	this information is not available
• upper explosion limit (UEL)	this information is not available
Explosion limits of dust clouds	these information are not available
Vapour pressure	This information is not available.
Density	1.846 g/cm ³ at 20 °C
Vapour density	This information is not available.
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	~ 400 g/l at 20 °C
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	This information is not available.
Auto-ignition temperature	309 °C
Decomposition temperature	>370 °C

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Viscosity	not relevant (solid matter)
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

9.2 Other information

There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

Dust explosibility.

10.2 Chemical stability

Moisture-sensitive.

10.3 Possibility of hazardous reactions

Violent reaction with: Potassium nitrate, Dimethyl sulphate, Water, Lead, Bromine, Dichloromethane, Copper, Heavy metals, Sulphuric acid, Carbon disulfide,

=> Explosive properties

Release of an acute toxic gas: Acids

10.4 Conditions to avoid

Humidity. - Keep away from heat. - Decomposition takes place from temperatures above: $>370\text{ }^{\circ}\text{C}$.

10.5 Incompatible materials

Heavy metals

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Exposure route	Endpoint	Value	Species	Source
oral	LD50	$>28 - <34\text{ mg/kg}$	not specified	ECHA
dermal	LD50	20 mg/kg	rabbit	RTECS
inhalation: dust/mist	LC50	$>0.054 - <0.52\text{ mg/l/4h}$	rat	ECHA

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.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

• Specific target organ toxicity - single exposure

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

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- **Specific target organ toxicity - repeated exposure**

May cause damage to organs (brain) through prolonged or repeated exposure.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

- **If swallowed**

nausea, vomiting

- **If in eyes**

causes slight to moderate irritation

- **If inhaled**

irritant effects, breathing difficulties, Dyspnoea

- **If on skin**

toxic in contact with skin, risk of absorption via the skin

Other information

Other adverse effects: Headache, Vertigo, Spasms, Circulatory collapse, Unconsciousness

SECTION 12: Ecological information

12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
LC50	2.75 mg/l	rainbow trout (<i>Oncorhynchus mykiss</i>)	ECHA	96 h
EC50	0.35 mg/l	algae	ECHA	96 h

Aquatic toxicity (chronic)

Endpoint	Value	Species	Source	Exposure time
EC50	79.3 mg/l	microorganisms	ECHA	3 h
NOEC	0.244 mg/l	microorganisms	ECHA	3 h
growth (EbCx) 10%	0.687 mg/l	microorganisms	ECHA	3 h

12.2 Process of degradability

Data are not available.

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.

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12.6 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.

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.

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	1687
14.2	UN proper shipping name	SODIUM AZIDE
	Hazardous ingredients	Sodium azide
14.3	Transport hazard class(es)	
	Class	6.1 (toxic substances)
14.4	Packing group	II (substance presenting medium danger)
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	Transport in bulk according to Annex II of MARPOL and the IBC Code	
	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)	
	UN number	1687
	Proper shipping name	SODIUM AZIDE
	Particulars in the transport document	UN1687, SODIUM AZIDE, 6.1, II, (D/E), environmentally hazardous

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Class	6.1
Classification code	T5
Packing group	II
Danger label(s)	6.1 + "fish and tree"
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	802(ADN)
Excepted quantities (EQ)	E4
Limited quantities (LQ)	500 g
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Emergency Action Code	2XE
• International Maritime Dangerous Goods Code (IMDG)	
UN number	1687
Proper shipping name	SODIUM AZIDE
Particulars in the shipper's declaration	UN1687, SODIUM AZIDE, 6.1, II, MARINE POLLUTANT
Class	6.1
Marine pollutant	yes (P) (hazardous to the aquatic environment)
Packing group	II
Danger label(s)	6.1 + "fish and tree"
Special provisions (SP)	-
Excepted quantities (EQ)	E4
Limited quantities (LQ)	500 g
EmS	F-A, S-A
Stowage category	A
Segregation group	17 - Azides
• International Civil Aviation Organization (ICAO-IATA/DGR)	
UN number	1687
Proper shipping name	Sodium azide
Particulars in the shipper's declaration	UN1687, Sodium azide, 6.1, II
Class	6.1

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Environmental hazards yes (hazardous to the aquatic environment)

Packing group II

Danger label(s) 6.1



Excepted quantities (EQ) E4

Limited quantities (LQ) 1 kg

SECTION 15: Regulatory information

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

National inventories

Substance is listed in the following national inventories:

Country	National inventories	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
MX	INSQ	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
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
REACH Reg.	REACH registered substances
TCSI	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.

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SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.1	Classification according to Regulation (EC) No 1272/2008 (CLP): This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.	Classification acc. to GHS	yes
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.1		Supplemental hazard information	yes
2.1		Supplemental hazard information: change in the listing (table)	yes
2.2	Labelling according to Regulation (EC) No 1272/2008 (CLP): not required	Labelling GHS	yes
2.2	Signal word: not required	Signal word: Danger	yes
2.2		Pictograms	yes
2.2		Pictograms: change in the listing (table)	yes
2.2		Hazard statements	yes
2.2		Hazard statements: change in the listing (table)	yes
2.2		Precautionary statements	yes
2.2		Precautionary statements - prevention	yes
2.2		Precautionary statements - prevention: change in the listing (table)	yes
2.2		Precautionary statements - response	yes
2.2		Precautionary statements - response: change in the listing (table)	yes
2.2		Precautionary statements - storage	yes
2.2		Precautionary statements - storage: change in the listing (table)	yes
2.2		Supplemental hazard information	yes
2.2		Supplemental hazard information: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: Signal word: Danger	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)	yes
8.1		Relevant DNELs/DMELs/PNECs and other threshold levels	yes
8.1		• human health values	yes
8.1		• human health values: change in the listing (table)	yes
8.1		• environmental values	yes
8.1		• environmental values: change in the listing (table)	yes
14.2	Hazardous ingredients: SODIUM AZIDE $\geq 99\%$, p.a.	Hazardous ingredients: Sodium azide	yes
14.3	Transport hazard class(es)	Transport hazard class(es): class 6.1 hazard - toxic substances	yes
14.8	Marine pollutant: yes (hazardous to the aquatic environment)	Marine pollutant: yes (P) (hazardous to the aquatic environment)	yes
14.8	Packing group: II6.1	Packing group: II	yes
14.8		Danger label(s): 6.1	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	ceiling value
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
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

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Abbr.	Descriptions of used abbreviations
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	short-term exposure limit
TWA	time-weighted average
vPvB	very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne conatminants

Key literature references and sources for data

- UN Recommendations on the Transport of Dangerous Good
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

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

Code	Text
H300	fatal if swallowed
H310	fatal in contact with skin
H330	fatal if inhaled
H373	may cause damage to organs (brain) through prolonged or repeated exposure

Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.