

# SAFETY DATA SHEET

Regulation (EC) No 1907/2006 (REACH), Annex II  
(COMMISSION REGULATION (EU) No 453/2010)

Version 1  
Product Name Glyoxa

Issue Date 29-Apr-2015  
Revision date 29-Apr-2015

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

### 1.1. Product identifier

Product Name Glyoxa  
CAS No 107-22-2  
REACH registration number 01-2119461733-37-0002

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

Recommended Use No information available  
Uses advised against No information available

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

Only representative REACH24H CONSULTING GROUP  
Address Suite 1E, Paramount Court, Corrig Road, Sandyford, Dublin 18, Ireland  
E-mail Info@reach24h.com

Supplier HUBEI HONGYUAN PHARMACEUTICAL TECHNOLOGY CO., LTD.  
Address 428 Yishui North Road, Fengshan, Luotian, Hubei, China  
Postal Code 438605  
Phone +86-713-5072024  
FAX +86-713-5072024  
E-mail office@hbhypharm.com

Importer  
Address  
Postal Code  
Phone  
FAX  
E-mail

### 1.4. Emergency telephone number

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Skin corrosion/irritation Category 2 - (H315)  
Serious eye damage/eye irritation Category 2 - (H319)  
Skin sensitization Category 1 - (H317)  
Germ cell mutagenicity Category 2 - (H341)  
Carcinogenicity Category 1B - (H350)

Classification according to Directive 67/548/EEC or 1999/45/EC

Xn - Harmful  
Muta. cat. 3; R68, Xn;R20, Xi;R36/37/38, R43

### 2.2. Label elements

## Symbols/Pictograms

Signal word  
Hazard Statements

Danger  
 H315 - Causes skin irritation  
 H317 - May cause an allergic skin reaction  
 H319 - Causes serious eye irritation  
 H341 - Suspected of causing genetic defects  
 H350 - May cause cancer

Contains Formaldehyde  
Precautionary Statements

P264 - Wash skin thoroughly after handling  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P201 - Obtain special instructions before use  
 P202 - Do not handle until all safety precautions have been read and understood  
 P308 + P313 - IF exposed or concerned: Get medical advice/attention  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P337 + P313 - If eye irritation persists: Get medical advice/attention  
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
 P405 - Store locked up  
 P501 - Dispose of contents/ container to an approved waste disposal plant

## 2.3. Other hazards

No information available

## SECTION 3: Composition/information on ingredients

## 3.1 Mixture

Chemical Name	EC No	CAS No	Weight-%	Classification according to Directive 67/548/EEC or 1999/45/EC	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Glyoxal	203-474-9	107-22-2	39.5-40.5	Xn; R20 Xi; R36/37/38 R43 Muta.Cat.3; R68	Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT Single Exp. 3 (H335) Skin Sens. 1 (H317) Muta. 2 (H341)
Glycolic acid		79-14-1	0.3	Not classified	Not classified
Formic acid	200-579-1	64-18-6	0.15	C; R35	Skin Corr. 1A (H314)
Formaldehyde	200-001-8	50-00-0	0.1	T; R23/24/25 C; R34 Carc.Cat.3; R40 R43	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Carc. 2 (H351) Eye Dam. 1
Ethylene glycol	203-473-3	107-21-1	0.1	Xn; R22	Acute Tox. 4 (H302)

## SECTION 4: First aid measures

## 4.1. Description of first aid measures

## General advice

Remove contaminated clothing and shoes. If symptoms persist, call a physician.

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.

**Eye contact**

IF 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.

**Ingestion**

Rinse mouth Get medical attention Never give anything by mouth to an unconscious person

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

- Causes eye irritation
- Skin irritation
- May cause allergic skin reaction
- Suspected of causing genetic defects
- May cause cancer

**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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

No information available

**5.2. Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating and toxic gases and vapors

**5.3. Advice for firefighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

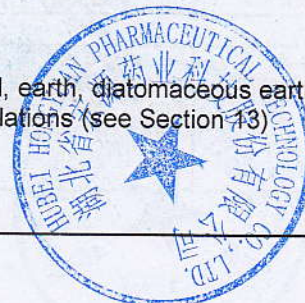
- Evacuate personnel to safe areas
- Ensure adequate ventilation, especially in confined areas
- Remove all sources of ignition
- Avoid contact with skin, eyes and inhalation of vapors
- Use personal protection recommended in Section 8

**6.2. Environmental precautions**

- Local authorities should be advised if significant spillages cannot be contained
- Prevent entry into waterways, sewers, basements or confined areas

**6.3. Methods and material for containment and cleaning up**

Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13)

**6.4. Reference to other sections**

See Section 7 for more information  
 See section 8 for more information  
 See section 13 for more information

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice  
 Ensure adequate ventilation, especially in confined areas  
 Avoid contact with skin, eyes or clothing  
 Wash contaminated clothing before reuse  
 Take precautionary measures against static discharges  
 Avoid generation of dust  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Do not eat, drink or smoke when using this product  
 Wash thoroughly after handling  
 Use personal protection recommended in Section 8

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

Keep containers tightly closed in a dry, cool and well-ventilated place  
 Keep away from heat  
 Keep locked up and out of reach of children  
 Keep away from food, drink and animal feeding stuffs  
 Store in accordance with local regulations

### 7.3. Specific end use(s)

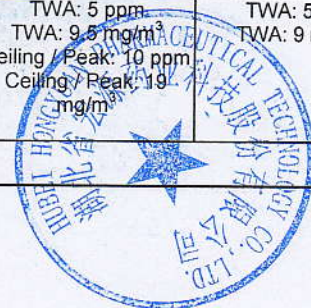
Apart from the uses mentioned in SECTION 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Chemical Name	Australia	Austria	Belgium	Denmark	European Union
Glyoxal (CAS #: 107-22-2)	-	-	-	Ceiling: 0.2 ppm Ceiling: 0.5 mg/m <sup>3</sup>	-
Formic acid (CAS #: 64-18-6)	5 ppm 9.4 mg/m <sup>3</sup> 10 ppm STEL 19 mg/m <sup>3</sup> STEL	STEL 5 ppm STEL 9 mg/m <sup>3</sup> TWA: 5 ppm TWA: 9 mg/m <sup>3</sup> Ceiling 5 ppm Ceiling 9 mg/m <sup>3</sup>	-	TWA: 5 ppm TWA: 9 mg/m <sup>3</sup>	TWA: 5 ppm TWA: 9 mg/m <sup>3</sup>
Formaldehyde (CAS #: 50-00-0)	1 ppm 1.2 mg/m <sup>3</sup> 2 ppm STEL 2.5 mg/m <sup>3</sup> STEL	Skin STEL 0.5 ppm STEL 0.6 mg/m <sup>3</sup> TWA: 0.5 ppm TWA: 0.6 mg/m <sup>3</sup> Ceiling 0.5 ppm Ceiling 0.6 mg/m <sup>3</sup>	-	Ceiling: 0.3 ppm Ceiling: 0.4 mg/m <sup>3</sup>	-
Ethylene glycol (CAS #: 107-21-1)	10 mg/m <sup>3</sup> 20 ppm 52 mg/m <sup>3</sup> 40 ppm STEL 104 mg/m <sup>3</sup> STEL Skin	Skin STEL 20 ppm STEL 52 mg/m <sup>3</sup> TWA: 10 ppm TWA: 26 mg/m <sup>3</sup>	-	TWA: 10 ppm TWA: 26 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> Skin	S* TWA 20 ppm TWA 52 mg/m <sup>3</sup> STEL 40 ppm STEL 104 mg/m <sup>3</sup>

Chemical Name	Latvia	France	Finland	Germany	Italy
Glyoxal (CAS #: 107-22-2)	-	-	TWA: 0.02 mg/m <sup>3</sup>	Skin	-
Formic acid (CAS #: 64-18-6)	TWA: 5 ppm TWA: 9 mg/m <sup>3</sup>	TWA: 5 ppm TWA: 9 mg/m <sup>3</sup>	TWA: 3 ppm TWA: 5 mg/m <sup>3</sup> STEL: 10 ppm STEL: 19 mg/m <sup>3</sup>	TWA: 5 ppm TWA: 9.5 mg/m <sup>3</sup> Ceiling / Peak: 10 ppm Ceiling / Peak: 19 mg/m <sup>3</sup>	TWA: 5 ppm TWA: 9 mg/m <sup>3</sup>



Formaldehyde (CAS #: 50-00-0)	TWA: 0.5 mg/m <sup>3</sup>	TWA: 0.5 ppm STEL: 1 ppm	TWA: 0.3 ppm TWA: 0.37 mg/m <sup>3</sup> STEL: 1 ppm STEL: 1.2 mg/m <sup>3</sup> Ceiling: 1 ppm Ceiling: 1.2 mg/m <sup>3</sup>	TWA: 0.3 ppm TWA: 0.37 mg/m <sup>3</sup> Ceiling / Peak: 0.6 ppm Ceiling / Peak: 0.74 mg/m <sup>3</sup> Skin	-
Ethylene glycol (CAS #: 107-21-1)	TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> Skin	TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup>	TWA: 20 ppm TWA: 50 mg/m <sup>3</sup> STEL: 40 ppm STEL: 100 mg/m <sup>3</sup> Skin	TWA: 10 ppm TWA: 26 mg/m <sup>3</sup> Ceiling / Peak: 20 ppm Ceiling / Peak: 52 mg/m <sup>3</sup> Skin	TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> Skin

Chemical Name	Poland	Portugal	Spain	Switzerland	Netherlands
Glyoxal (CAS #: 107-22-2)	-	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	-	-
Formic acid (CAS #: 64-18-6)	STEL: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	STEL: 10 ppm TWA: 5 ppm	TWA: 5 ppm TWA: 9 mg/m <sup>3</sup>	STEL: 10 ppm STEL: 19 mg/m <sup>3</sup> TWA: 5 ppm TWA: 9.5 mg/m <sup>3</sup>	STEL: 5 mg/m <sup>3</sup>
Formaldehyde (CAS #: 50-00-0)	STEL: 1 mg/m <sup>3</sup> TWA: 0.5 mg/m <sup>3</sup>	Ceiling: 0.3 ppm	STEL: 0.3 ppm STEL: 0.37 mg/m <sup>3</sup>	STEL: 0.6 ppm STEL: 0.74 mg/m <sup>3</sup> TWA: 0.3 ppm TWA: 0.37 mg/m <sup>3</sup>	STEL: 0.5 mg/m <sup>3</sup> TWA: 0.15 mg/m <sup>3</sup>
Ethylene glycol (CAS #: 107-21-1)	STEL: 50 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	Ceiling: 100 mg/m <sup>3</sup>	S* STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> TWA: 20 ppm TWA: 52 mg/m <sup>3</sup>	Skin STEL: 20 ppm STEL: 52 mg/m <sup>3</sup> TWA: 10 ppm TWA: 26 mg/m <sup>3</sup>	Skin STEL: 104 mg/m <sup>3</sup> TWA: 52 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>

Chemical Name	Norway	United Kingdom	ACGIH TLV	OSHA PEL	NIOSH IDLH
Glyoxal (CAS #: 107-22-2)	-	-	TWA: 0.1 mg/m <sup>3</sup> inhalable fraction and vapor	-	-
Formic acid (CAS #: 64-18-6)	TWA: 5 ppm TWA: 9 mg/m <sup>3</sup> STEL: 10 ppm STEL: 18 mg/m <sup>3</sup>	STEL: 15 ppm STEL: 28.8 mg/m <sup>3</sup> TWA: 5 ppm TWA: 9.6 mg/m <sup>3</sup>	STEL: 10 ppm TWA: 5 ppm	TWA: 5 ppm TWA: 9 mg/m <sup>3</sup> (vacated) TWA: 5 ppm (vacated) TWA: 9 mg/m <sup>3</sup>	IDLH: 30 ppm TWA: 5 ppm TWA: 9 mg/m <sup>3</sup>
Formaldehyde (CAS #: 50-00-0)	TWA: 0.5 ppm TWA: 0.6 mg/m <sup>3</sup> Ceiling: 1 ppm Ceiling: 1.2 mg/m <sup>3</sup> STEL: 1.5 ppm STEL: 1.8 mg/m <sup>3</sup>	STEL: 2 ppm STEL: 2.5 mg/m <sup>3</sup> TWA: 2 ppm TWA: 2.5 mg/m <sup>3</sup>	Ceiling: 0.3 ppm	TWA: 0.75 ppm (vacated) TWA: 3 ppm unless specified in 1910.1048 (vacated) STEL: 10 ppm 30 min unless specified in 1910.1048 (vacated) Ceiling: 5 ppm unless specified in 1910.1048 STEL: 2 ppm see 29 CFR 1910.1048	IDLH: 20 ppm Ceiling: 0.1 ppm 15 min TWA: 0.016 ppm
Ethylene glycol (CAS #: 107-21-1)	TWA: 10 mg/m <sup>3</sup> TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> Skin Ceiling: 25 ppm STEL: 104 mg/m <sup>3</sup> STEL: 40 ppm	STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup> TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> Skin	Ceiling: 100 mg/m <sup>3</sup> aerosol only	(vacated) Ceiling: 50 ppm (vacated) Ceiling: 125 mg/m <sup>3</sup>	-

**Derived No Effect Level (DNEL)**

Glyoxal:

Inhalation

Worker - inhalative, long-term - systemic  
 Worker - inhalative, long-term - local  
 Consumer - inhalative, long-term - systemic  
 Consumer - inhalative, long-term - local

5.29 mg/m<sup>3</sup>  
 0.04 mg/m<sup>3</sup>  
 1.3 mg/m<sup>3</sup>  
 0.01 mg/m<sup>3</sup>



Dermal	Worker - dermal, long-term - systemic	10.8 mg/kg bw/day
Oral	Consumer - dermal, long-term - systemic	5.4 mg/kg bw/day
	Consumer - oral, long-term - systemic	0.6 mg/kg bw/day

**Predicted No Effect Concentration (PNEC)**

Glyoxal:	
Fresh Water	0.319 mg/L
Sea Water	0.0319 mg/L
Sea sediment	0.0685 mg/kg sediment dw
Soil	4.06 mg/kg soil dw
Impact on Sewage Treatment	0.685 mg/kg sediment dw

**8.2. Exposure controls****Engineering Controls**

Use with local exhaust ventilation. Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment**

Eye/face protection	Wear safety glasses with side shields (or goggles)
Hand Protection	Wear protective gloves
Skin and body protection	Suitable protective clothing
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment

**Environmental exposure controls**

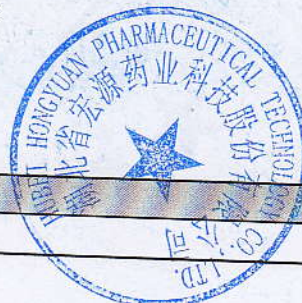
Do not allow into any sewer, on the ground or into any body of water

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Appearance	Liquid
Color	No information available
Odor	No information available
Odor Threshold	Not determined
pH	2.0
Melting point/freezing point	15 °C
Boiling point / boiling range	51 °C
Flash point	Not determined
Evaporation rate	Not determined
Flammability (solid, gas)	Not flammable
Flammability Limit in Air	Not determined
Vapor Pressure	Not determined
Vapor density	Not determined
Density	1.27 g/cm <sup>3</sup>
Relative density	Not determined
Specific gravity	Not determined
Water solubility	Miscible
Partition coefficient (LogPow)	Not determined
Autoignition temperature	Not determined
Decomposition temperature	Not determined
Kinematic viscosity	Not determined
Dynamic viscosity	Not determined
Explosive properties	Not an explosive
Oxidizing properties	Not determined

**9.2. Other information**

No information available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

None under normal processing.

**10.4. Conditions to avoid**

Heat, flames and sparks

**10.5. Incompatible materials**

Strong oxidizing agents. Strong acids. Strong bases.

**10.6. Hazardous decomposition products**

None under normal use conditions

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Glyoxal (CAS #: 107-22-2)	>2000 - 5000 mg/kg bw	> 2000 mg/kg bw	2.44 mg/L/4 h (95% CL: 2.23 - 2.59)
Formic acid (CAS #: 64-18-6)	= 730 mg/kg ( Rat )	-	= 15 g/m <sup>3</sup> ( Rat ) 15 min
Ethylene glycol (CAS #: 107-21-1)	= 4000 mg/kg ( Rat )	-	-
Formaldehyde (CAS #: 50-00-0)	= 500 mg/kg ( Rat )	= 270 mg/kg ( Rabbit )	= 0.578 mg/L ( Rat ) 4 h

**Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Sensitization**

May cause sensitization by skin contact.

**Germ cell mutagenicity**

Suspected of causing genetic defects.

**Carcinogenicity**

Chemical Name	European Union	IARC
Formaldehyde (CAS #: 50-00-0)	Carc. 2	Group 1

**Reproductive toxicity**

Not classified.

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

Not classified.

**Aspiration hazard**

Not classified.







**13.1. Waste treatment methods**

Waste from residues/unused products Disposal should be in accordance with applicable regional, national and local laws and regulations  
 Contaminated packaging Disposal should be in accordance with applicable regional, national and local laws and regulations

**SECTION 14: Transport information**

- 14.1 UN Number Not regulated
- 14.2 Proper shipping name Not regulated
- 14.3 Hazard Class Not regulated
- 14.4 Packing Group Not regulated
- 14.5 Environmental hazards Not applicable
- 14.6 Special precautions No information available
- 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

**SECTION 15: Regulatory information**

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**  
 European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work  
 Take note of Directive 94/33/EC on the protection of young people at work  
 Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

**International Inventories**

Component	TSCA	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	AICS
Glyoxal 107-22-2 (39.5-40.5)	X	X	X	X	X	X	X	X
Glycolic acid 79-14-1 (0.3)	X	X	X	X	X	X	X	X
Formic acid 64-18-6 (0.15)	X	X	X	X	X	X	X	X
Formaldehyde 50-00-0 (0.1)	X	X	X	X	X	X	X	X
Ethylene glycol 107-21-1 (0.1)	X	X	X	X	X	X	X	X

"-" Not Listed  
 "X" Listed

**15.2. Chemical safety assessment**

A Chemical Safety Assessment has been carried out for this substance

**SECTION 16: Other information**

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Issue Date 29-Apr-2015



Revision date 29-Apr-2015  
Revision Note Not applicable

**Key or legend to abbreviations and acronyms used in the safety data sheet**

TWA - TWA (time-weighted average)  
STEL - STEL (Short Term Exposure Limit)  
Ceiling - Maximum limit value  
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List  
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
ENCS - Japan Existing and New Chemical Substances  
IECSC - China Inventory of Existing Chemical Substances  
KECL - Korean Existing and Evaluated Chemical Substances  
PICCS - Philippines Inventory of Chemicals and Chemical Substances  
AICS - Australian Inventory of Chemical Substances

**Full text of H-Statements referred to under section 3**

H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H332 - Harmful if inhaled  
H341 - Suspected of causing genetic defects  
H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage  
H301 - Toxic if swallowed  
H311 - Toxic in contact with skin  
H331 - Toxic if inhaled  
H350 - May cause cancer

**Full text of R-phrases referred to under sections 2 and 3**

R68 - Possible risk of irreversible effects  
R43 - May cause sensitization by skin contact  
R20 - Harmful by inhalation  
R35 - Causes severe burns  
R34 - Causes burns  
R40 - Limited evidence of a carcinogenic effect  
R36/37/38 - Irritating to eyes, respiratory system and skin  
R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed

**Disclaimer**

The information provided in this Material 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.

----- End of Safety Data Sheet -----

