

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Glyoxal solution 40 %

article number: **HN49**  
Version: **GHS 2.0 en**  
Replaces version of: 2020-02-04  
Version: (GHS 1)

date of compilation: 2020-02-04  
Revision: 2022-05-05

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

### 1.1 Product identifier

Identification of the substance	<b>Glyoxal solution 40 %</b>
Article number	HN49
CAS number	[ 107-22-2 ]

### 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  
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**Website:** [www.carlroth.de](http://www.carlroth.de)

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

**e-mail (competent person):** [sicherheit@carlroth.de](mailto: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	

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.1I	Acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.2	Skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	Serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.4S	Skin sensitisation	1	Skin Sens. 1	H317
3.5	Germ cell mutagenicity	2	Muta. 2	H341

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Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.8R	Specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335

For full text of abbreviations: see SECTION 16

## 2.2 Label elements

### Labelling

#### Signal word

**Warning**

#### Pictograms

GHS07, GHS08



#### Hazard statements

H315 Causes skin irritation  
H317 May cause an allergic skin reaction  
H319 Causes serious eye irritation  
H332 Harmful if inhaled  
H335 May cause respiratory irritation  
H341 Suspected of causing genetic defects

#### Precautionary statements

##### **Precautionary statements - prevention**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray  
P280 Wear protective gloves

##### **Precautionary statements - response**

P302+P352 IF ON SKIN: Wash with plenty of soap and water  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P312 Call a POISON CENTER or doctor/physician if you feel unwell

##### **Precautionary statements - storage**

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

##### **Precautionary statements - disposal**

P501 Dispose of contents/container to industrial combustion plant

For professional users only

**Hazardous ingredients for labelling:** Glyoxal ... %

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### 2.3 Other hazards

#### Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

not relevant (mixture)

### 3.2 Mixtures

#### Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Glyoxal ... %	CAS No 107-22-2	40	Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1 / H317 Muta. 2 / H341 STOT SE 3 / H335		
Ethylene glycol	CAS No 107-21-1	> 1 – ≤ 2.5	STOT RE 2 / H373		IOELV

#### Notes

IOELV: Substance with a community indicative occupational exposure limit value

For full text of abbreviations: see SECTION 16

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower. After contact with skin, wash immediately with plenty of water. In case of skin reactions, consult a physician. In case of skin irritation, consult a physician.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

#### Following ingestion

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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

Vomiting, Irritation, Allergic reactions, Cough, Dyspnoea

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings  
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Ingredients of the mixture combustible. The product itself does not burn.

#### Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. 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

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

### 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

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 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

#### 7.1 Precautions for safe handling

Provision of sufficient ventilation. Avoid exposure.

#### Advice on general occupational hygiene

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

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

Keep container tightly closed.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice:

#### Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

#### 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)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
AU	ethylene glycol (ethanediol)	107-21-1	WES		10						WES
AU	ethylene glycol (ethanediol)	107-21-1	WES	20	52	40	104			vap	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)

vap

As vapours

##### Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Glyoxal ... %	107-22-2	DNEL	2.96 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects

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Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Glyoxal ... %	107-22-2	DNEL	8.9 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - systemic effects
Glyoxal ... %	107-22-2	DNEL	40 µg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
Glyoxal ... %	107-22-2	DNEL	6.6 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Ethylene glycol	107-21-1	DNEL	35 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
Ethylene glycol	107-21-1	DNEL	106 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Glyoxal ... %	107-22-2	PNEC	0.319 mg/l	aquatic organisms	freshwater	short-term (single instance)
Glyoxal ... %	107-22-2	PNEC	0.032 mg/l	aquatic organisms	marine water	short-term (single instance)
Glyoxal ... %	107-22-2	PNEC	4.1 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Glyoxal ... %	107-22-2	PNEC	0.685 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Glyoxal ... %	107-22-2	PNEC	0.069 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Glyoxal ... %	107-22-2	PNEC	6.3 mg/kg	terrestrial organisms	soil	short-term (single instance)
Ethylene glycol	107-21-1	PNEC	10 mg/l	aquatic organisms	water	intermittent release
Ethylene glycol	107-21-1	PNEC	10 mg/l	aquatic organisms	freshwater	short-term (single instance)
Ethylene glycol	107-21-1	PNEC	1 mg/l	aquatic organisms	marine water	short-term (single instance)
Ethylene glycol	107-21-1	PNEC	199.5 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Ethylene glycol	107-21-1	PNEC	37 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Ethylene glycol	107-21-1	PNEC	3.7 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Ethylene glycol	107-21-1	PNEC	1.53 mg/kg	terrestrial organisms	soil	short-term (single instance)

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### 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

>0,3 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 recommended.

##### Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: ABEK (combined filters against gases and vapours, colour code: Brown/Grey/Yellow/Green).

##### Environmental exposure controls

Keep away from drains, surface and ground water.

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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless - light yellow
Odour	characteristic
Melting point/freezing point	-15 °C
Boiling point or initial boiling point and boiling range	104 °C at 1,013 hPa
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not determined
Auto-ignition temperature	285 °C (DIN 51794)
Decomposition temperature	not relevant
pH (value)	>2 - 3.5 (20 °C)
Kinematic viscosity	6.299 mm <sup>2</sup> /s at 20 °C
Dynamic viscosity	8 mPa s at 20 °C
<u>Solubility(ies)</u>	
Water solubility	miscible in any proportion
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	-1.15 (OECD 107)
Vapour pressure	20.2 hPa at 20 °C
<u>Density and/or relative density</u>	
Density	1.27 g/cm <sup>3</sup> at 20 °C
Relative vapour density	information on this property is not available
Particle characteristics	not relevant (liquid)
<u>Other safety parameters</u>	
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:	
Miscibility	completely miscible with water



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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

Danger of polymerisation.

#### 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:** Ammonia (NH<sub>3</sub>), Amines, Alkali (lye)

=> Polymerisation

**Exothermic reaction with:** Alkali hydroxide (caustic alkali), Nitric acid, Sulphuric acid

#### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

#### 10.5 Incompatible materials

aluminium, copper, Steel

#### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

##### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

##### Classification acc. to GHS

##### Acute toxicity

Harmful if inhaled.

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
Glyoxal ... %	107-22-2	inhalation: vapour	11 mg/l/4h
Glyoxal ... %	107-22-2	inhalation: dust/mist	2.41 mg/l/4h

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Glyoxal ... %	107-22-2	oral	LD50	2,960 mg/kg	rat
Glyoxal ... %	107-22-2	inhalation: dust/mist	LC50	2.41 mg/l/4h	rat
Glyoxal ... %	107-22-2	dermal	LD50	>2,000 mg/kg	rat
Ethylene glycol	107-21-1	dermal	LD50	>3,500 mg/kg	mouse

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Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Ethylene glycol	107-21-1	oral	LD50	4,700 mg/kg	rat

### Skin corrosion/irritation

Causes skin irritation.

### Serious eye damage/eye irritation

Causes serious eye irritation.

### Respiratory or skin sensitisation

May cause an allergic skin reaction.

### Germ cell mutagenicity

Suspected of causing genetic defects.

### Carcinogenicity

Shall not be classified as carcinogenic.

### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

### Specific target organ toxicity - single exposure

May cause respiratory irritation.

### 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

abdominal pain, nausea, vomiting

#### • If in eyes

Causes serious eye irritation

#### • If inhaled

Irritation to respiratory tract, cough, Dyspnoea

#### • If on skin

causes skin irritation, May produce an allergic reaction, pruritis, localised redness

#### • Other information

Other adverse effects: Renal impairment, Spasms, Agitation

## 11.2 Endocrine disrupting properties

None of the ingredients are listed.

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### SECTION 12: Ecological information

#### 12.1 Toxicity

Harmful to aquatic life.

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Glyoxal ... %	107-22-2	LC50	<272 mg/l	fish	96 h
Glyoxal ... %	107-22-2	EC50	50 mg/l	aquatic invertebrates	48 h
Glyoxal ... %	107-22-2	ErC50	347.1 mg/l	algae	72 h
Ethylene glycol	107-21-1	LC50	>72,860 mg/l	fish	96 h
Ethylene glycol	107-21-1	EC50	>100 mg/l	daphnia magna	48 h
Ethylene glycol	107-21-1	ErC50	<13,000 mg/l	algae	96 h

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Glyoxal ... %	107-22-2	EC50	>1,000 mg/l	microorganisms	30 min
Ethylene glycol	107-21-1	LC50	>1,500 mg/l	fish	28 d
Ethylene glycol	107-21-1	EC50	>15,000 mg/l	aquatic invertebrates	21 d

#### Biodegradation

Data are not available.

#### 12.2 Process of degradability

Degradability of components of the mixture						
Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Glyoxal ... %	107-22-2	carbon dioxide generation	72 %	49 d		ECHA
Glyoxal ... %	107-22-2	DOC removal	90 – 100 %	19 d		ECHA
Ethylene glycol	107-21-1	biotic/abiotic	83 – 96 %	14 d		
Ethylene glycol	107-21-1	DOC removal	90 – 100 %	10 d		ECHA

#### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

Bioaccumulative potential of components of the mixture				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Glyoxal ... %	107-22-2		-1.15 (pH value: 7, 23 °C)	
Ethylene glycol	107-21-1		-1.36	

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### 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

None of the ingredients are 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.

#### Relevant provisions relating to waste(Basel Convention)

#### Properties of waste which render it hazardous

**H11** Toxic (Delayed or chronic)

### 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 | <b>UN number</b>   | not subject to transport regulations                                  |
| 14.2 | <b>UN proper shipping name</b>   | not assigned  |
| 14.3 | <b>Transport hazard class(es)</b>  | not assigned  |
| 14.4 | <b>Packing group</b>   | not assigned  |
| 14.5 | <b>Environmental hazards</b>   | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 | <b>Special precautions for user</b>  | There is no additional information.                                   |
| 14.7 | <b>Transport in bulk according to IMO instruments</b>                              | The cargo is not intended to be carried in bulk.                      |
| 14.8 | <b>Information for each of the UN Model Regulations</b>                            |   |
|      | <b>Transport informationNational regulationsAdditional information(UN RTDG)</b>    | Not subject to transport regulations. UN RTDG                         |
|      | <b>International Maritime Dangerous Goods Code (IMDG) - Additional information</b> |   |

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Not subject to IMDG.

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

Not subject to ICAO-IATA.

## SECTION 15: Regulatory information

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

There is no additional information.

#### National regulations(Australia)

##### Australian Inventory of Chemical Substances(AICS)

All ingredients are listed or exempt from listing.

#### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

#### National inventories

Country	Inventory	Status
AU	AIIC	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

#### Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
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 (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

### 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

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### SECTION 16: Other information

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

Alignment to regulation: Globally Harmonized System of Classification and Labelling of Chemicals ("Purple book").

Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.2		Precautionary statements - response: change in the listing (table)	yes
2.2	Labelling of packages where the contents do not exceed 125 ml: Signal word: Warning		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
2.2	contains: Glyoxal ... %		yes
2.3	Other hazards: There is no additional information.	Other hazards	yes
2.3		Results of PBT and vPvB assessment: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	yes

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
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

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Abbr.	Descriptions of used abbreviations
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
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
IMDG	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
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-Octanol/water
Muta.	Germ cell mutagenicity
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
TWA	Time-weighted average
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne contaminants

### Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

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

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Glyoxal solution 40 %

article number: **HN49**

### Classification procedure

Physical and chemical properties. The classification is based on tested mixture.  
Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

Code	Text
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H373	May cause damage to organs through prolonged or repeated exposure.

### Disclaimer

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