Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice

Formaldehyde solution 30 %, low-methanol

article number: **4235**
Version: **GHS 4.0 en**
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Version: (GHS 3)

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

1.1 Product identifier

Identification of the substance: **Formaldehyde solution** 30 %, low-methanol

Article number: 4235

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 direct contact with the skin. 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 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 West-mead, NSW	131126	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.1O	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.1D	Acute toxicity (dermal)	3	Acute Tox. 3	H311
3.1I	Acute toxicity (inhal.)	3	Acute Tox. 3	H331
3.2	Skin corrosion/irritation	1C	Skin Corr. 1C	H314
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.4S	Skin sensitisation	1	Skin Sens. 1	H317
3.5	Germ cell mutagenicity	2	Muta. 2	H341
3.6	Carcinogenicity	1B	Carc. 1B	H350
3.8	Specific target organ toxicity - single exposure	2	STOT SE 2	H371
3.8R	Specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Immediate effects can be expected after short-term exposure.

2.2 Label elements

Labelling

Signal word **Danger**

Pictograms

GHS05, GHS06, GHS08

Hazard statements

H302	Harmful if swallowed
H311+H331	Toxic in contact with skin or if inhaled
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects
H350	May cause cancer
H371	May cause damage to organs (eye)

Precautionary statements

Precautionary statements - prevention

P260	Do not breathe dusts or mists
P280	Wear protective gloves/protective clothing

Precautionary statements - response

P302+P352	IF ON SKIN: Wash with plenty of soap and water
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Precautionary statements - storage

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

For professional users only

Hazardous ingredients for labelling: Formaldehyde ... %, Methanol, Formic acid

2.3 Other hazards

This material is combustible, but will not ignite readily.

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
Formaldehyde ... %	CAS No 50-00-0	29 – 31	Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 Skin Corr. 1C / H314 Eye Dam. 1 / H318 Skin Sens. 1 / H317 Muta. 2 / H341 Carc. 1B / H350 STOT SE 3 / H335		B D IARC: 1 RoC "Known"
Methanol	CAS No 67-56-1	≤ 2	Flam. Liq. 2 / H225 Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 STOT SE 1 / H370		
Formic acid	CAS No 64-18-6	≤ 0.2	Flam. Liq. 3 / H226 Met. Corr. 1 / H290 Acute Tox. 4 / H302 Acute Tox. 3 / H331 Skin Corr. 1A / H314 Eye Dam. 1 / H318 EUH071		B(a)

Notes

B(a): The classification refers to an aqueous solution

B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.

IARC: 1: IARC group 1: carcinogenic to humans (International Agency for Research on Cancer)

RoC "Known": NTP-RoC: Known To Be A Human Carcinogen

For full text of abbreviations: see SECTION 16

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.

Following inhalation

Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

Following skin contact

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure. In case of skin reactions, consult a physician.

Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

Following ingestion

Rinse mouth immediately and drink plenty of water. Rinse mouth with water (only if the person is conscious). If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects). In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Vomiting, Corrosion, Gastric perforation, Allergic reactions, Irritation, Cough, Dyspnoea, Headache, Vertigo, Dizziness, Unconsciousness, Spasms, Risk of serious damage to eyes, Risk of blindness

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_2)

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. Vapours may form explosive mixtures with air.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO_2)

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. Wear full chemical protective clothing.

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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of sufficient ventilation. Use extractor hood (laboratory). Handle and open container with care. Avoid exposure. Clear contaminated areas thoroughly.

Measures to prevent fire as well as aerosol and dust generation

Keep away from sources of ignition - No smoking.

Advice on general occupational hygiene

Thorough skin-cleansing after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. May cause decomposition by long-term light influence.

Incompatible substances or mixtures

Observe hints for combined storage.

Protect against external exposure, such as

high temperatures, direct light irradiation

Consideration of other advice:

Store locked up.

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/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
AU	formaldehyde	50-00-0	WES	1	1.2	2	2.5				WES
AU	formic acid	64-18-6	WES	5	9.4	10	19				WES
AU	methyl alcohol (methanol)	67-56-1	WES	200	262	250	328				WES

Notation

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

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
Formaldehyde ... %	50-00-0	DNEL	9 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Formaldehyde ... %	50-00-0	DNEL	0.375 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Formaldehyde ... %	50-00-0	DNEL	0.75 mg/m³	human, inhalatory	worker (industry)	acute - local effects
Formaldehyde ... %	50-00-0	DNEL	240 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Formaldehyde ... %	50-00-0	DNEL	37 µg/cm²	human, dermal	worker (industry)	chronic - local effects
Methanol	67-56-1	DNEL	130 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Methanol	67-56-1	DNEL	130 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects

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
Methanol	67-56-1	DNEL	130 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Methanol	67-56-1	DNEL	130 mg/m³	human, inhalatory	worker (industry)	acute - local effects
Methanol	67-56-1	DNEL	20 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Methanol	67-56-1	DNEL	20 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
Formic acid	64-18-6	DNEL	9.5 mg/m³	human, inhalatory	worker (industry)	chronic - local effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Formaldehyde ... %	50-00-0	PNEC	0.44 mg/l	aquatic organisms	freshwater	short-term (single instance)
Formaldehyde ... %	50-00-0	PNEC	0.44 mg/l	aquatic organisms	marine water	short-term (single instance)
Formaldehyde ... %	50-00-0	PNEC	0.19 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Formaldehyde ... %	50-00-0	PNEC	2.3 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Formaldehyde ... %	50-00-0	PNEC	2.3 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Formaldehyde ... %	50-00-0	PNEC	0.2 mg/kg	terrestrial organisms	soil	short-term (single instance)
Methanol	67-56-1	PNEC	20.8 mg/l	aquatic organisms	freshwater	short-term (single instance)
Methanol	67-56-1	PNEC	2.08 mg/l	aquatic organisms	marine water	short-term (single instance)
Methanol	67-56-1	PNEC	100 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Methanol	67-56-1	PNEC	77 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Methanol	67-56-1	PNEC	7.7 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Methanol	67-56-1	PNEC	100 mg/kg	terrestrial organisms	soil	short-term (single instance)
Formic acid	64-18-6	PNEC	2 mg/l	aquatic organisms	freshwater	short-term (single instance)
Formic acid	64-18-6	PNEC	0.2 mg/l	aquatic organisms	marine water	short-term (single instance)
Formic acid	64-18-6	PNEC	7.2 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)

Relevant PNECs of components of the mixture						
Name of substance	**CAS No**	**End-point**	**Threshold level**	**Organism**	**Environmental compartment**	**Exposure time**
Formic acid	64-18-6	PNEC	13.4 $^{mg}/_{kg}$	aquatic organisms	freshwater sediment	short-term (single instance)
Formic acid	64-18-6	PNEC	1.34 $^{mg}/_{kg}$	aquatic organisms	marine sediment	short-term (single instance)
Formic acid	64-18-6	PNEC	1.5 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection

Use safety goggle with side protection. Wear face 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

Butyl caoutchouc (butyl rubber)

• material thickness

0,4 mm

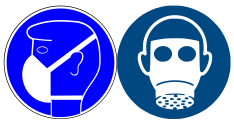
• breakthrough times of the glove material

>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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	stinging
Melting point/freezing point	-15 °C
Boiling point or initial boiling point and boiling range	97 °C
Flammability	non-combustible
Lower and upper explosion limit	7 vol% - 73 vol% (anhydrous)
Flash point	66 – 73 °C
Auto-ignition temperature	>300 °C
Decomposition temperature	not relevant
pH (value)	3.5 – 4.5 (20 °C)
Kinematic viscosity	2.11 $^{mm^2}/_{s}$ at 20 °C
Solubility(ies)	
Water solubility	miscible in any proportion
Partition coefficient	
Partition coefficient n-octanol/water (log value):	this information is not available
Vapour pressure	not determined
Density	1.09 $^{g}/_{cm^3}$ at 20 °C
Relative vapour density	information on this property is not available
Particle characteristics	not relevant (liquid)
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:

Miscibility	completely miscible with water

SECTION 10: Stability and reactivity

10.1 Reactivity

Danger of polymerisation.

If heated

Vapours may form explosive mixtures with air.

10.2 Chemical stability

May cause decomposition by long-term light influence.
To stabilise: Methanol.

10.3 Possibility of hazardous reactions

Exothermic reaction with: Alkalis, Permanganates, strong oxidiser, Aniline,
Violent reaction with: Acids, Phenol, Nitric acid, Hydrogen peroxide,
=> Explosive properties

10.4 Conditions to avoid

Direct light irradiation. Keep away from heat.

10.5 Incompatible materials

different metals

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 swallowed. Toxic in contact with skin. Toxic if inhaled.

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Formaldehyde ... %	50-00-0	oral	100 $^{mg}/_{kg}$
Formaldehyde ... %	50-00-0	dermal	300 $^{mg}/_{kg}$
Formaldehyde ... %	50-00-0	inhalation: vapour	3 $^{mg}/_{l}$/4h
Formic acid	64-18-6	oral	730 $^{mg}/_{kg}$
Formic acid	64-18-6	inhalation: vapour	7.85 $^{mg}/_{l}$/4h

Acute toxicity of components of the mixture					
Name of substance	**CAS No**	**Exposure route**	**Endpoint**	**Value**	**Species**
Methanol	67-56-1	inhalation: vapour	LC50	131 $^{mg}/_{l}$/4h	rat
Methanol	67-56-1	oral	LD50	5,628 $^{mg}/_{kg}$	rat
Methanol	67-56-1	oral	LDLo	143 $^{mg}/_{kg}$	human
Methanol	67-56-1	dermal	LD50	15,800 $^{mg}/_{kg}$	rabbit
Formic acid	64-18-6	oral	LD50	730 $^{mg}/_{kg}$	rat
Formic acid	64-18-6	inhalation: vapour	LC50	7.85 $^{mg}/_{l}$/4h	rat

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity

Suspected of causing genetic defects.

Carcinogenicity

May cause cancer.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause damage to organs (eye). May cause respiratory irritation.

Hazard category	Target organ	Exposure route
2	eye	if exposed

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

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects)

• If in eyes

causes burns, Causes serious eye damage, risk of blindness

• If inhaled

vertigo, headache, Irritation to respiratory tract, cough, Dyspnoea

• If on skin

causes severe burns, causes poorly healing wounds, May produce an allergic reaction, pruritis, localised redness

• Other information

Other adverse effects: Spasms, Blood pressure drop, Liver and kidney damage, Dizziness, Unconsciousness

11.2 Endocrine disrupting properties

None of the ingredients are listed.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Formaldehyde ... %	50-00-0	LC50	6.7 $^{mg}/_{l}$	fish	96 h
Formaldehyde ... %	50-00-0	EC50	5.8 $^{mg}/_{l}$	aquatic invertebrates	48 h
Formaldehyde ... %	50-00-0	ErC50	4.89 $^{mg}/_{l}$	algae	72 h
Methanol	67-56-1	LC50	15,400 $^{mg}/_{l}$	fish	96 h
Methanol	67-56-1	ErC50	22,000 $^{mg}/_{l}$	algae	96 h
Formic acid	64-18-6	LC50	130 $^{mg}/_{l}$	fish	96 h
Formic acid	64-18-6	EC50	365 $^{mg}/_{l}$	aquatic invertebrates	48 h
Formic acid	64-18-6	ErC50	1,240 $^{mg}/_{l}$	algae	72 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Formaldehyde ... %	50-00-0	EC50	19 $^{mg}/_{l}$	microorganisms	3 h

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
Formaldehyde ... %	50-00-0	DOC removal	99 %	28 d		ECHA
Methanol	67-56-1	biotic/abiotic	99 %	30 d		
Methanol	67-56-1	oxygen depletion	69 %	5 d		ECHA

Degradability of components of the mixture						
Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Formic acid	64-18-6	biotic/abiotic	98 %	14 d		
Formic acid	64-18-6	oxygen depletion	15 %	5 d		ECHA
Formic acid	64-18-6	DOC removal	4 %	6 d		ECHA

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Methanol	67-56-1		-0.77	
Formic acid	64-18-6		-2.1 (pH value: 7, 23 °C)	

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.

Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

Relevant provisions relating to waste(Basel Convention)

Properties of waste which render it hazardous

H8 Corrosives
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 UN number

UN RTDG	UN 2209
IMDG-Code	UN 2209
ICAO-TI	UN 2209

14.2 UN proper shipping name

UN RTDG	FORMALDEHYDE SOLUTION
IMDG-Code	FORMALDEHYDE SOLUTION
ICAO-TI	Formaldehyde solution

14.3 Transport hazard class(es)

UN RTDG	8
IMDG-Code	8
ICAO-TI	8

14.4 Packing group

UN RTDG	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

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 informationNational regulationsAdditional information(UN RTDG)

UN number	2209
Class	8
Packing group	III
Danger label(s)	8

Special provisions (SP)	- UN RTDG
Excepted quantities (EQ)	E1 UN RTDG
Limited quantities (LQ)	5 L UN RTDG

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	FORMALDEHYDE SOLUTION
Particulars in the shipper's declaration	UN2209, FORMALDEHYDE SOLUTION, 8, III
Marine pollutant	-
Danger label(s)	8

Special provisions (SP)	-
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-B
Stowage category	A

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

Proper shipping name	Formaldehyde solution
Particulars in the shipper's declaration	UN2209, Formaldehyde solution, 8, III
Danger label(s)	8

Excepted quantities (EQ)	E1
Limited quantities (LQ)	1 L

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	AICS	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

Country	Inventory	Status
JP	CSCL-ENCS	all ingredients are listed
JP	ISHA-ENCS	not 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

AICS	Australian Inventory of Chemical Substances
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
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
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.

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
2.1		The most important adverse physicochemical, human health and environmental effects: Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Immediate effects can be expected after short-term exposure.	yes
2.2		Hazard statements: change in the listing (table)	yes
2.2		Precautionary statements - prevention: change in the listing (table)	yes
2.2		Precautionary statements - response: change in the listing (table)	yes

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relev-ant
2.2	Hazardous ingredients for labelling: Formaldehyde ... %	Hazardous ingredients for labelling: Formaldehyde ... %, Methanol, Formic acid	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
2.2	contains: Formaldehyde ... %		yes
2.3	Other hazards: There is no additional information.	Other hazards: This material is combustible, but will not ignite readily.	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
Carc.	Carcinogenicity
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
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
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

Abbr.	Descriptions of used abbreviations
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC	International Agency for Research on Cancer
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
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
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Met. Corr.	Substance or mixture corrosive to metals
Muta.	Germ cell mutagenicity
NLP	No-Longer Polymer
NTP-RoC	National Toxicology Program: Report on Carcinogens
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 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 conatminants

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).

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 chapter 2 and 3)

Code	Text
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs (eye).
H371	May cause damage to organs (eye).

Disclaimer

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