Safety data sheet

Safe Work Australia - Code of Practice

Formaldehyde solution ROTIPURAN® 37 %, p.a., ACS

article number: **4979**
Version: **GHS 3.0 en**
Replaces version of: 2019-01-03
Version: (GHS 2)

date of compilation: 2016-04-15
Revision: 2020-01-09

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

1.1 Product identifier

Identification of the substance	**Formaldehyde solution**
Article number	4979
Registration number (REACH)	not relevant (mixture)

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

Classification acc. to GHS

Section	Hazard class	Hazard class and category	Hazard statement
3.1O	acute toxicity (oral)	(Acute Tox. 3)	H301
3.1D	acute toxicity (dermal)	(Acute Tox. 3)	H311
3.1I	acute toxicity (inhal.)	(Acute Tox. 3)	H331
3.2	skin corrosion/irritation	(Skin Corr. 1C)	H314

Formaldehyde solution ROTIPURAN® 37 %, p.a., ACS

article number: **4979**

Classification acc. to GHS			
Section	**Hazard class**	**Hazard class and category**	**Hazard statement**
3.3	serious eye damage/eye irritation	(Eye Dam. 1)	H318
3.4S	skin sensitisation	(Skin Sens. 1)	H317
3.5	germ cell mutagenicity	(Muta. 2)	H341
3.6	carcinogenicity	(Carc. 1B)	H350
3.8	specific target organ toxicity - single exposure	(STOT SE 1)	H370
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	(STOT SE 3)	H335

2.2 Label elements

Labelling GHS

Signal word **Danger**

Pictograms

GHS05, GHS06, GHS08

Hazard statements

H301+H311+H331	Toxic if swallowed, 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
H370	Causes 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

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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

Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

Symbol(s)

H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs (eye).
P260	Do not breathe dusts or mists.
P280	Wear protective gloves/protective clothing.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
contains:	Formaldehyde ... %, Methanol

2.3 Other hazards

There is no additional information.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description of the mixture

Composition/information on ingredients.

Name of substance	Identifier	wt%	Classification acc. to 1272/2008/EC	Pictograms	Specific Conc. Limits
Formaldehyde ... %	CAS No 50-00-0 EC No 200-001-8 Index No 605-001-00-5 REACH Reg. No 01-2119488953-20-xxxx	30 – 50	Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Skin Sens. 1 / H317 Muta. 2 / H341 Carc. 1B / H350 STOT SE 3 / H335		Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 5 % ≤ C < 25 % Eye Dam. 1; H318: C ≥ 25 % Eye Irrit. 2; H319: 5 % ≤ C < 25 % Skin Sens. 1; H317: C ≥ 0.2 % STOT SE 3; H335: C ≥ 5 %
Methanol	CAS No 67-56-1 EC No 200-659-6 Index No 603-001-00-X REACH Reg. No 01-2119433307-44-xxxx	≤ 15	Flam. Liq. 2 / H225 Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 STOT SE 1 / H370		STOT SE 1; H370: C ≥ 10 % STOT SE 2; H371: 3 % ≤ C < 10 %

Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

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

Following inhalation

Remove person to fresh air and keep comfortable for breathing. 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. Take off immediately all contaminated clothing. Call a physician in any case.

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. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects). Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Irritation, Corrosion, Allergic reactions, Cough, Vertigo, Dizziness, Headache, Dyspnoea, Gastric perforation, Unconsciousness, Spasms, 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 fire-fighting measures to the fire surroundings
water spray, foam, alcohol resistant foam, dry extinguishing 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. Vapours can form explosive mixtures with air.

Hazardous combustion products

May produce toxic fumes of carbon monoxide if burning.

5.3 Advice for firefighters

Vapours are heavier than air. Beware of reignition. 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 vapour/spray. Use appropriate respiratory protection. Use personal protective equipment as required. Avoid contact with skin, eyes and clothes.

6.2 Environmental precautions

In case of formation of gases/vapours/mists: Suppress with water spray. 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 (e.g. 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

Use extractor hood (laboratory). Avoid exposure. Handle and open container with care. When not in use, keep containers tightly closed. Clear contaminated areas thoroughly.

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


Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge.

Advice on general occupational hygiene

Do not eat, drink or smoke when using this product. 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.

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.

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]	Source
AU	formaldehyde	50-00-0	WES	1	1.2	2	2.5	WES
AU	methyl alcohol (methanol)	67-56-1	WES	200	262	250	328	WES

Notation

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/DMELs/PNECs and other threshold levels

• 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	1 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
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	260 mg/m³	human, inhalatory	worker (industry)	acute - local effects
Methanol	67-56-1	DNEL	40 mg/kg	human, dermal	worker (industry)	acute - systemic effects
Methanol	67-56-1	DNEL	260 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Methanol	67-56-1	DNEL	260 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Methanol	67-56-1	DNEL	40 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
Methanol	67-56-1	DNEL	260 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects

• relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment	Exposure time
Formaldehyde ... %	50-00-0	PNEC	4.44 mg/l	water	intermittent release
Formaldehyde ... %	50-00-0	PNEC	0.44 mg/l	freshwater	short-term (single instance)
Formaldehyde ... %	50-00-0	PNEC	0.44 mg/l	marine water	short-term (single instance)
Formaldehyde ... %	50-00-0	PNEC	0.19 mg/l	sewage treatment plant (STP)	short-term (single instance)
Formaldehyde ... %	50-00-0	PNEC	2.3 mg/kg	freshwater sediment	short-term (single instance)
Formaldehyde ... %	50-00-0	PNEC	2.3 mg/kg	marine sediment	short-term (single instance)
Formaldehyde ... %	50-00-0	PNEC	0.2 mg/kg	soil	short-term (single instance)
Methanol	67-56-1	PNEC	20.8 mg/l	freshwater	short-term (single instance)
Methanol	67-56-1	PNEC	2.08 mg/l	marine water	short-term (single instance)
Methanol	67-56-1	PNEC	100 mg/l	sewage treatment plant (STP)	short-term (single instance)
Methanol	67-56-1	PNEC	77 mg/kg	freshwater sediment	short-term (single instance)
Methanol	67-56-1	PNEC	7.7 mg/kg	marine sediment	short-term (single instance)
Methanol	67-56-1	PNEC	100 mg/kg	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: AX (gas filters and combined filters against low-boiling point organic compounds, colour code: Brown). 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

Appearance

Physical state	liquid (fluid)
Colour	colourless
Odour	stinging
Odour threshold	No data available

Other physical and chemical parameters

pH (value)	3.5 – 4.5 (20 °C)
Melting point/freezing point	<-15 °C

Initial boiling point and boiling range	97 °C
Flash point	62 °C (closed cup)
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)
Explosive limits	
• lower explosion limit (LEL)	7 vol%
• upper explosion limit (UEL)	73 vol%
Explosion limits of dust clouds	not relevant
Vapour pressure	1.3 mbar at 20 °C
Density	1.09 $^{g}/_{cm^3}$ at 20 °C
Vapour density	This information is not available.
Bulk density	Not applicable
Relative density	Information on this property is not available.
Solubility(ies)	
Water solubility	miscible in any proportion
Partition coefficient	
n-octanol/water (log KOW)	0.35 (exp. TOXNET)
Auto-ignition temperature	>300 °C
Decomposition temperature	no data available
Viscosity	
• kinematic viscosity	2.018 $^{mm^2}/_{s}$
• dynamic viscosity	2.2 mPa s at 20 °C
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

9.2 Other information

SECTION 10: Stability and reactivity

10.1 Reactivity

Danger of polymerisation. In case of warming: Vapours can form explosive mixtures with air.

10.2 Chemical stability

May cause decomposition by long-term light influence.
Stabilized - Methanol.

10.3 Possibility of hazardous reactions

Exothermic reaction with: Alkalis, Caustic soda, 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

Acute toxicity

• Acute toxicity 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
Methanol	67-56-1	oral	100 $^{mg}/_{kg}$
Methanol	67-56-1	dermal	300 $^{mg}/_{kg}$
Methanol	67-56-1	inhalation: vapour	3 $^{mg}/_{l}$/4h

Skin corrosion/irritation

Causes severe burns.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

May cause an allergic skin reaction. May cause sensitization by skin contact.

Summary of evaluation of the CMR properties

Germ cell mutagenicity:
Suspected of causing genetic defects
Carcinogenicity:
May cause cancer

• Specific target organ toxicity - single exposure

Causes damage to organs (eye). 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

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

corrosive to the respiratory tract, cough, headache, vertigo, Dyspnoea, pulmonary oedema

• If on skin

causes severe burns, risk of absorption via the skin, Allergic reactions

Other information

Other adverse effects: Spasms, Blood pressure drop, Narcosis, Nausea, Agitation, Liver and kidney damage

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)

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Formaldehyde ... %	50-00-0	LC50	31.8 $^{mg}/_{l}$	fish	24 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 $^{mg}/_{l}$	bluegill (Lepomis macrochirus)	96 h
Methanol	67-56-1	EC50	12,700 $^{mg}/_{l}$	bluegill (Lepomis macrochirus)	96 h
Methanol	67-56-1	ErC50	22,000 $^{mg}/_{l}$	Pseudokirchneriella subcapitata	96 h

Aquatic toxicity (chronic)

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

12.2 Process of degradability

The substance is readily biodegradable.

Process	Degradation rate	Time
biotic/abiotic	97 %	5 d

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time
Formaldehyde ... %	50-00-0	DOC removal	99 %	28 d
Methanol	67-56-1	biotic/abiotic	99 %	30 d
Methanol	67-56-1	oxygen depletion	76 %	5 d

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW) 0.35

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	Log KOW
Methanol	67-56-1	-0.77

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

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	**2209**
14.2	UN proper shipping name	**FORMALDEHYDE SOLUTION**
	Hazardous ingredients	Formaldehyde ... %, Methanol
14.3	Transport hazard class(es)	
	Class	8 (corrosive substances)
14.4	Packing group	III (substance presenting low danger)

14.5	Environmental hazards	none (non-environmentally hazardous acc. to the dangerous goods regulations)

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	2209
Proper shipping name	FORMALDEHYDE SOLUTION
Particulars in the transport document	UN2209, FORMALDEHYDE SOLUTION, 8, III, (E)
Class	8
Classification code	C9
Packing group	III
Danger label(s)	8

Special provisions (SP)	533
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	E
Hazard identification No	80
Emergency Action Code	2X

• International Maritime Dangerous Goods Code (IMDG)

UN number	2209
Proper shipping name	FORMALDEHYDE SOLUTION
Particulars in the shipper's declaration	UN2209, FORMALDEHYDE SOLUTION, 8, III
Class	8
Marine pollutant	-
Packing group	III
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)

UN number	2209
Proper shipping name	Formaldehyde solution
Particulars in the shipper's declaration	UN2209, Formaldehyde solution, 8, III
Class	8
Packing group	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

National inventories

Country	National inventories	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
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)

Legend

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
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)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.2		Precautionary statements - prevention: 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
3.2		Description of the mixture: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	acute toxicity
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)
ATE	Acute Toxicity Estimate
Carc.	carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
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
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule

Abbr.	Descriptions of used abbreviations
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
Flam. Liq.	flammable liquid
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
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
log KOW	n-octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Muta.	germ cell mutagenicity
NLP	No-Longer Polymer
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)
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
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
H225	highly flammable liquid and vapour
H301	toxic 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)

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.