Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)

Karl-Fischer-ROTI®Hydroquant Fat Solver crude oil , for KF titration

article number: **22LC**
Version: **1.0 en**

date of compilation: 2023-07-19

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

1.1 Product identifier

Identification of the substance: **Karl-Fischer-ROTI®Hydroquant Fat Solver crude oil** , for KF titration

Article number: 22LC

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

Relevant identified uses: Laboratory and analytical use
Laboratory chemical

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). Food, drink and animal feedingstuffs.

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

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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
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

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
2.6	Flammable liquid	2	Flam. Liq. 2	H225
3.1O	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.1D	Acute toxicity (dermal)	4	Acute Tox. 4	H312
3.1I	Acute toxicity (inhal.)	3	Acute Tox. 3	H331
3.2	Skin corrosion/irritation	1C	Skin Corr. 1C	H314

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.6	Carcinogenicity	2	Carc. 2	H351
3.7	Reproductive toxicity	1B	Repr. 1B	H360D
3.8	Specific target organ toxicity - single exposure	1	STOT SE 1	H370
3.8R	Specific target organ toxicity - single exposure (respirat-ory tract irritation)	3	STOT SE 3	H335
3.9	Specific target organ toxicity - repeated exposure	1	STOT RE 1	H372
3.10	Aspiration hazard	1	Asp. Tox. 1	H304

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 epi-dermis and into the dermis. Delayed or immediate effects can be expected after short or long-term exposure. The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling

Signal word **Danger**

Pictograms

GHS02, GHS05, GHS06, GHS08

Hazard statements

H225	Highly flammable liquid and vapour
H302+H312	Harmful if swallowed or in contact with skin
H304	May be fatal if swallowed and enters airways
H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H360D	May damage the unborn child
H370	Causes damage to organs (eye)
H372	Causes damage to organs through prolonged or repeated exposure

Precautionary statements

Precautionary statements - prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P280	Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements - response

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
P310	Immediately call a POISON CENTER/doctor

Precautionary statements - storage

P405	Store locked up

For professional users only

Hazardous ingredients for labelling: Trichloromethane, Imidazole, o-Xylene, Methanol

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.

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
o-Xylene	CAS No 95-47-6 EC No 202-422-2 Index No 601-022-00-9	30 – 60	Flam. Liq. 3 / H226 Acute Tox. 4 / H312 Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 STOT SE 3 / H335 STOT RE 2 / H373 Asp. Tox. 1 / H304		C GHS-HC IOELV
Trichloromethane	CAS No 67-66-3 EC No 200-663-8 Index No 602-006-00-4	20 – 50	Acute Tox. 4 / H302 Acute Tox. 3 / H331 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Carc. 2 / H351 Repr. 2 / H361d STOT RE 1 / H372		GHS-HC IOELV
Methanol	CAS No 67-56-1 EC No 200-659-6 Index No 603-001-00-X	15 – 20	Flam. Liq. 2 / H225 Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 STOT SE 1 / H370		GHS-HC IOELV

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Imidazole	CAS No 288-32-4 EC No 206-019-2 Index No 613-319-00-0	1 – 10	Acute Tox. 4 / H302 Skin Corr. 1C / H314 Eye Dam. 1 / H318 Repr. 1B / H360D		GHS-HC
Sulphur dioxide	CAS No 7446-09-5 EC No 231-195-2 Index No 016-011-00-9	1 – 5	Press. Gas C / H280 Acute Tox. 3 / H331 Skin Corr. 1B / H314 Eye Dam. 1 / H318		5(a) GHS-HC IOELV U

Notes

5(a): The classification of the gaseous mixture is based on the concentration of the substance as volume per volume percentage

C: Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

IOELV: Substance with a community indicative occupational exposure limit value

U: When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

Name of substance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
o-Xylene	CAS No 95-47-6 EC No 202-422-2	-	-	1.100 $^{mg}/_{kg}$ 11 $^{mg}/_{l}$/4h	dermal inhalation: vapour
Trichloromethane	CAS No 67-66-3 EC No 200-663-8	-	-	908 $^{mg}/_{kg}$ 3 $^{mg}/_{l}$/4h	oral inhalation: vapour
Methanol	CAS No 67-56-1 EC No 200-659-6	STOT SE 1; H370: C ≥ 10 % STOT SE 2; H371: 3 % ≤ C < 10 %	-	100 $^{mg}/_{kg}$ 300 $^{mg}/_{kg}$ 3 $^{mg}/_{l}$/4h	oral dermal inhalation: vapour
Imidazole	CAS No 288-32-4 EC No 206-019-2	-	-	970 $^{mg}/_{kg}$	oral
Sulphur dioxide	CAS No 7446-09-5 EC No 231-195-2	-	-	700 $^{ppmV}/_{4h}$	inhalation: gas

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.

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). Observe aspiration hazard if vomiting occurs.

4.2 Most important symptoms and effects, both acute and delayed

Corrosion, Risk of serious damage to eyes, Risk of blindness, Gastric perforation, Irritation, Cough, Dyspnoea, Spasms, Nausea, Vomiting, Aspiration hazard, Headache, Vertigo, Dizziness, Unconsciousness, Loss of righting reflex, and ataxia

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, dry extinguishing powder, BC-powder, carbon dioxide (CO_2)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours may form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO_2), Hydrogen chloride (HCl), Hydrogen halides (HX), May produce toxic fumes of carbon monoxide if burning.

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. Avoidance of ignition sources. Provide adequate ventilation.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

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. 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. Due to danger of explosion, prevent leakage

of vapours into cellars, flues and ditches.

Advice on general occupational hygiene

Wash hands before breaks and after work. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Store locked up. Ground/bond container and receiving equipment.

Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. 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]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
EU	methanol	67-56-1	IOELV	200	260					H	2006/15/EC
EU	chloroform	67-66-3	IOELV	2	10					H	2000/39/EC
EU	sulfur dioxide	7446-09-5	IOELV	0,5	1,3	1	2,7				2017/164/EU
EU	o-xylene	95-47-6	IOELV	50	221	100	442			H	2000/39/EC
GB	methanol	67-56-1	WEL	200	266	250	333				EH40/2005
GB	chloroform	67-66-3	WEL	2	9,9						EH40/2005
GB	sulfur dioxide	7446-09-5	WEL	0,5	1,3	1	2,7				EH40/2005
GB	o-xylene	95-47-6	WEL	50	220	100	441				EH40/2005

Notation

Ceiling-C	Ceiling value is a limit value above which exposure should not occur
H	Absorbed through the skin
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)

Biological limit values

Country	Name of agent	CAS No	Parameter	Notation	Identifier	Value	Material	Source
GB	xylene, mixture of isomers	95-47-6	methylhippuric acids	crea	BMGV	650 mmol/mol	urine	EH40/2005

Notation

crea	Creatinine

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
Trichloromethane	67-66-3	DNEL	2,5 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Trichloromethane	67-66-3	DNEL	333 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
Trichloromethane	67-66-3	DNEL	2,5 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Trichloromethane	67-66-3	DNEL	0,94 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic 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
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
Imidazole	288-32-4	DNEL	10,6 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Imidazole	288-32-4	DNEL	1,5 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Sulphur dioxide	7446-09-5	DNEL	1,3 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Sulphur dioxide	7446-09-5	DNEL	2,7 mg/m³	human, inhalatory	worker (industry)	acute - local effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Trichloromethane	67-66-3	PNEC	0,146 mg/l	aquatic organisms	freshwater	short-term (single instance)
Trichloromethane	67-66-3	PNEC	0,015 mg/l	aquatic organisms	marine water	short-term (single instance)
Trichloromethane	67-66-3	PNEC	0,048 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Trichloromethane	67-66-3	PNEC	0,45 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Trichloromethane	67-66-3	PNEC	0,09 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Trichloromethane	67-66-3	PNEC	0,56 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)
Imidazole	288-32-4	PNEC	0,13 mg/l	aquatic organisms	freshwater	short-term (single instance)
Imidazole	288-32-4	PNEC	0,013 mg/l	aquatic organisms	marine water	short-term (single instance)
Imidazole	288-32-4	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Imidazole	288-32-4	PNEC	0,336 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Imidazole	288-32-4	PNEC	0,034 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Imidazole	288-32-4	PNEC	0,043 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

FKM (fluoro rubber)

• material thickness

≥0,4 mm

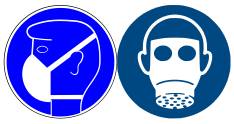
• breakthrough times of the glove material

>480 minutes (permeation: level 6)

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.
Flame-retardant protective clothing.

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).

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	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	57 °C at 1.013 hPa
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	not determined

Flash point	6 °C (c.c.)
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	6 – 7 (20 °C)
Kinematic viscosity	not determined
Solubility(ies)	
Water solubility	(partially soluble)
Partition coefficient	
Partition coefficient n-octanol/water (log value):	this information is not available
Vapour pressure	not determined
Density and/or relative density	
Density	1,013 $^{g}/_{cm^3}$ 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:	There is no additional information.
Other safety characteristics:	There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

The mixture contains reactive substance(s). Risk of ignition. Vapours may form explosive mixtures with air.

If heated

Risk of ignition.

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: strong oxidiser, Acetone, Alkali metals, Alkaline earth metal, Mineral acids, Strong alkali, Metal powder, Nitro compound, Peroxides,
=> Explosive properties

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials

different plastics, Rubber articles, Light 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. Harmful in contact with skin. Toxic if inhaled.

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
o-Xylene	95-47-6	dermal	1.100 $^{mg}/_{kg}$
o-Xylene	95-47-6	inhalation: vapour	11 $^{mg}/_{l}$/4h
Trichloromethane	67-66-3	oral	908 $^{mg}/_{kg}$
Trichloromethane	67-66-3	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
Imidazole	288-32-4	oral	970 $^{mg}/_{kg}$
Sulphur dioxide	7446-09-5	inhalation: gas	700 $^{ppmV}/_{4h}$

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
o-Xylene	95-47-6	inhalation: vapour	LC50	21,7 $^{mg}/_{l}$/4h	rat
o-Xylene	95-47-6	oral	LD50	3.523 $^{mg}/_{kg}$	rat
o-Xylene	95-47-6	dermal	LD50	12.126 $^{mg}/_{kg}$	rabbit
Trichloromethane	67-66-3	oral	LD50	908 $^{mg}/_{kg}$	rat
Methanol	67-56-1	inhalation: vapour	LC50	131 $^{mg}/_{l}$/4h	rat
Methanol	67-56-1	oral	LD50	5.628 $^{mg}/_{kg}$	rat

Acute toxicity of components of the mixture					
Name of substance	**CAS No**	**Exposure route**	**Endpoint**	**Value**	**Species**
Methanol	67-56-1	oral	LDLo	143 $^{mg}/_{kg}$	human
Methanol	67-56-1	dermal	LD50	15.800 $^{mg}/_{kg}$	rabbit
Imidazole	288-32-4	oral	LD50	970 $^{mg}/_{kg}$	rat

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

May damage the unborn child.

Specific target organ toxicity - single exposure

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

Hazard category	Target organ	Exposure route
1	eye	if exposed

Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Hazard category	Target organ	Exposure route
2	respiratory tract	if exposed

Aspiration hazard

May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

vomiting, nausea, If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects), aspiration hazard

• If in eyes

causes burns, Causes serious eye damage, risk of blindness

• If inhaled

vertigo, dizziness, deficits in perception and coordination, reaction time, or sleepiness, loss of righting reflex, and ataxia, headache, poisoning effect on central nervous system can cause convulsions, laboured breathing and loss of consciousness, Irritation to respiratory tract, cough, Dyspnoea

• If on skin

causes severe burns, causes poorly healing wounds

• Other information

none

11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.

11.3 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture

Name of sub-stance	CAS No	Endpoint	Value	Species	Exposure time
o-Xylene	95-47-6	LC50	2,6 mg/l	fish	96 h
o-Xylene	95-47-6	LL50	5,549 mg/l	fish	72 h
o-Xylene	95-47-6	ErC50	4,7 mg/l	algae	72 h
o-Xylene	95-47-6	EL50	5,744 mg/l	algae	72 h
Trichloromethane	67-66-3	EC50	152,5 mg/l	aquatic invertebrates	48 h
Trichloromethane	67-66-3	ErC50	13,3 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
Imidazole	288-32-4	LC50	283,6 mg/l	fish	48 h
Imidazole	288-32-4	EC50	341,5 mg/l	aquatic invertebrates	48 h
Imidazole	288-32-4	ErC50	133 mg/l	algae	72 h

Aquatic toxicity (chronic) of components of the mixture

Name of sub-stance	CAS No	Endpoint	Value	Species	Exposure time
o-Xylene	95-47-6	EL50	2,9 mg/l	aquatic invertebrates	21 d
o-Xylene	95-47-6	ErC50	4,36 mg/l	algae	73 h
o-Xylene	95-47-6	EC50	2,2 mg/l	algae	73 h
Trichloromethane	67-66-3	EC50	0,48 mg/l	microorganisms	24 h
Imidazole	288-32-4	EC50	>1.000 mg/l	microorganisms	30 min

12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
o-Xylene	95-47-6	carbon dioxide generation	50 %	23 d		ECHA
o-Xylene	95-47-6	oxygen depletion	90 %	28 d		ECHA
Trichloromethane	67-66-3	biotic/abiotic	0 %	14 d		
Methanol	67-56-1	biotic/abiotic	99 %	30 d		
Methanol	67-56-1	oxygen depletion	69 %	5 d		ECHA
Imidazole	288-32-4	biotic/abiotic	86 %	19 d		
Imidazole	288-32-4	DOC removal	90 – 100 %	18 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
o-Xylene	95-47-6	>5,5 – <12,2	3,15 (pH value: 7, 20 °C)	
Trichloromethane	67-66-3		1,97 (25 °C)	
Methanol	67-56-1		-0,77	
Imidazole	288-32-4		0,0586	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.

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

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

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.

Properties of waste which render it hazardous

HP 3 flammable
HP 4 irritant - skin irritation and eye damage
HP 5 specific target organ toxicity (STOT)/aspiration toxicity
HP 6 acute toxicity
HP 7 carcinogenic
HP 8 corrosive
HP 10 toxic for reproduction

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. Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number or ID number

ADRRID	UN 3286
IMDG-Code	UN 3286
ICAO-TI	UN 3286

14.2 UN proper shipping name

ADRRID	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
IMDG-Code	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
ICAO-TI	Flammable liquid, toxic, corrosive, n.o.s.
Technical name (hazardous ingredients)	Methanol, Imidazole

14.3 Transport hazard class(es)

ADRRID	3 (6.1) (8)
IMDG-Code	3 (6.1) (8)
ICAO-TI	3 (6.1) (8)

14.4 Packing group

ADRRID	II
IMDG-Code	II
ICAO-TI	II

14.5	**Environmental hazards**	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 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)Additional information

Proper shipping name	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
Particulars in the transport document	UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S., (contains: Methanol, Imidazole), 3 (6.1+8), II, (D/E)
Classification code	FTC
Danger label(s)	3+6.1+8

Special provisions (SP)	274, 802(ADN)
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	368
Emergency Action Code	3WE

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information

Classification code	FTC
Danger label(s)	3+6.1+8

Special provisions (SP)	274, 802(ADN)
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Hazard identification No	368

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
Particulars in the shipper's declaration	UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S., (contains: Methanol, Imidazole), 3 (6.1+8), II, 6°C c.c.
Marine pollutant	-
Danger label(s)	3+6.1+8

Special provisions (SP)	274
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-E, S-C
Stowage category	B

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

Proper shipping name	Flammable liquid, toxic, corrosive, n.o.s.
Particulars in the shipper's declaration	UN3286, Flammable liquid, toxic, corrosive, n.o.s., (contains: Methanol, Imidazole), 3 (6.1+8), II
Danger label(s)	3+6.1+8

Excepted quantities (EQ)	E2
Limited quantities (LQ)	0,5 L

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Seveso Directive

2012/18/EU (Seveso III)

No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
H2	acute toxic (cat. 2 + cat. 3, inhal.)	50	200	41)

Notation

41) - Category 2, all exposure routes
- category 3, inhalation exposure route

Deco-Paint Directive

VOC content	89 %
VOC content	901,6 g/l

Industrial Emissions Directive (IED)

VOC content	89 %
VOC content	901,6 g/l

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

Pollutant release and transfer registers (PRTR)

Name of substance	CAS No	Remarks	Threshold for releases to air (kg/year)
Trichloromethane	67-66-3		500

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
o-Xylene	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Imidazole	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Methanol	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Trichloromethane	trichloromethane (chloroform)	67-66-3	b)	
Trichloromethane	trichloromethane	67-66-3	c)	

List of pollutants (WFD)				
Name of substance	**Name acc. to inventory**	**CAS No**	**Listed in**	**Remarks**
Trichloromethane	Organohalogen compounds and substances which may form such compounds in the aquatic environment		a)	
Trichloromethane	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	

Legend
A) Indicative list of the main pollutants
B) List of priority substances in the field of water policy
C) Environmental Quality Standards for Priority Substances and certain other pollutants

Regulation on the marketing and use of explosives precursors

none of the ingredients are listed

Regulation on drug precursors

none of the ingredients are listed

Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

Regulation concerning the export and import of hazardous chemicals (PIC)

chemicals subject to the international prior informed consent (PIC) procedure (the 'PIC procedure').

Name of substance	Name acc. to inventory	CAS No	Wt%	Category / subcategory	Use limitation
Trichloromethane	chloroform	67-66-3	30	i(2)	b

Legend
b Use limitation: ban (for the sub-category or sub-categories concerned) according to Union legislation
i(2) Sub-category: i(2) - industrial chemical for public use

Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

National regulations(GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

none of the ingredients are listed

Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)			
Name of substance	**Name acc. to inventory**	**CAS No**	**No**
Karl-Fischer-ROTI®Hydroquant Fat Solver crude oil	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		3
o-Xylene	flammable / pyrophoric		40

Dangerous substances with restrictions (GB REACH, Annex 17)			
Name of substance	**Name acc. to inventory**	**CAS No**	**No**
Imidazole	toxic for reproduction		30
Methanol	Methanol	67-56-1	69
Methanol	flammable / pyrophoric		40
Trichloromethane	Chloroform	67-66-3	32

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
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 (ACTIVE)

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
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

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2000/39/EC	Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
2006/15/EC	Commission Directive establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC
2017/164/EU	Commission Directive establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU
Acute Tox.	Acute toxicity
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
Asp. Tox.	Aspiration hazard
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
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)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
EL50	Effective Loading 50 %: the EL50 corresponds to the loading rate required to produce a response in 50% of the test organisms
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
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations

Abbr.	Descriptions of used abbreviations
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
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
IOELV	Indicative occupational exposure limit value
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
LL50	Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality
log KOW	n-Octanol/water
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
Press. Gas	Gas under pressure
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
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
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
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). 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 section 2 and 3)

Code	Text
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H360D	May damage the unborn child.
H361d	Suspected of damaging the unborn child.
H370	Causes damage to organs (eye).
H372	Causes damage to organs through prolonged or repeated exposure.
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.