Safety Data Sheet

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

LEU SG

Version number: 2.0
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First version: 2019-09-19

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

1.1 Product identifier

Trade name — **LEU SG**

Registration number (REACH) — Not relevant (mixture).

CAS number — not relevant (mixture)

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

Relevant identified uses — Cleaning agent
Professional use

Uses advised against — Do not use for squirting or spraying

1.3 Details of the supplier of the safety data sheet

Uniter Chemie GmbH
Lötscher Weg 48
D-41334 Nettetal
Germany

Telephone: ++49 (0) 2153 - 9789-0
Telefax: ++49 (0) 2153 - 9789-29
e-mail: info@uniter.com

e-mail (competent person) — info@uniter.com

National contact — ++49 (0) 2153 - 9789 - 15

1.4 Emergency telephone number

As above or nearest toxicological information centre.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Classification

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	flammable liquid	2	Flam. Liq. 2	H225
2.16	substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.1O	acute toxicity (oral)	3	Acute Tox. 3	H301
3.1D	acute toxicity (dermal)	2	Acute Tox. 2	H310

Classification				
Section	**Hazard class**	**Category**	**Hazard class and category**	**Hazard statement**
3.2	skin corrosion/irritation	1	Skin Corr. 1	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.8D	specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3	STOT SE 3	H336

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.
The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word danger

Pictograms

GHS02, GHS05, GHS06

Hazard statements

H225	Highly flammable liquid and vapour.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H336	May cause drowsiness or dizziness.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
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].
P310	Immediately call a POISON CENTER/doctor.
P403+P235	Store in a well-ventilated place. Keep cool.

Hazardous ingredients for labelling hydrofluoric acid
propan-2-ol
oxalic acid
acetone

2.3 Other hazards

In use, may form flammable/explosive vapour-air mixture.

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

Hazardous ingredients

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes	Specific Conc. Limits
propan-2-ol	CAS No 67-63-0 EC No 200-661-7 Index No 603-117-00-0 REACH Reg. No 01-2119457558-25-XXXX	10 – < 25	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336		GHS-HC	
acetone	CAS No 67-64-1 EC No 200-662-2 Index No 606-001-00-8	5 – < 10	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336		GHS-HC IOELV	

Hazardous ingredients

Name of sub-stance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes	Specific Conc. Limits
phosphoric acid	CAS No 7664-38-2 EC No 231-633-2 Index No 015-011-00-6	1 – < 5	Met. Corr. 1 / H290 Acute Tox. 4 / H302 Skin Corr. 1B / H314 Eye Dam. 1 / H318		B(a) GHS-HC IOELV	Met. Corr. 1; H290: C ≥ 20 % Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Dam. 1; H318: C ≥ 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 %
hydrofluoric acid	CAS No 7664-39-3 EC No 231-634-8 Index No 009-003-00-1	1 – < 3.18	Met. Corr. 1 / H290 Acute Tox. 2 / H300 Acute Tox. 1 / H310 Acute Tox. 2 / H330 Skin Corr. 1A / H314 Eye Dam. 1 / H318		B(a) GHS-HC IOELV	Skin Corr. 1A; H314: C ≥ 7 % Skin Corr. 1B; H314: 1 % ≤ C < 7 % Eye Dam. 1; H318: C ≥ 1 % Eye Irrit. 2; H319: 0.1 % ≤ C < 1 %
oxalic acid	CAS No 144-62-7 EC No 205-634-3 Index No 607-006-00-8	1 – < 5	Acute Tox. 4 / H302 Acute Tox. 4 / H312 Eye Dam. 1 / H318		GHS-HC IOELV	

Notes

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

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Self-protection of the first aider.
Call a physician immediately.
Remove affected person from the danger area and lay down.
Do not leave affected person unattended.
Take off immediately all contaminated clothing.
In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

Provide fresh air.
Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus.
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.
Rub with a gel containing calcium gluconate.
Call a physician immediately. Causes poorly healing wounds.

Following eye contact

Rinse copiously with a calcium gluconate solution.
Remove contact lenses, if present and easy to do. Continue rinsing.
Call a physician immediately.

Following ingestion

Rinse mouth. Do not induce vomiting.
Call a physician immediately.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage.
Narcotic effects.
Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.
Subsequent observance for pneumonia and pulmonary oedema.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

water spray, alcohol resistant foam, fire extinguishing powder, carbon dioxide (CO2)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.
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.
Substance or mixture corrosive to metals.

Hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO2), hydrogen fluoride (HF), nitrogen oxides (NOx), phosphorus oxides (PxOy), Corrosive gases / vapors

5.3 Advice for firefighters

Keep containers cool with water spray.
In case of fire and/or explosion do not breathe fumes.
Co-ordinate firefighting measures to the fire surroundings.
Do not allow firefighting water to enter drains or water courses.
Collect contaminated firefighting water separately.
Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

wear self-contained breathing apparatus, chemical protection suit

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.
Ventilate affected area.
Keep away from sources of ignition - No smoking.
Do not get in eyes, on skin, or on clothing.
Do not breathe vapour/spray.
Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.
Chemical protection suit.

6.2 Environmental precautions

In case of formation of gases/vapours/mists suppress with water spray
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 clean up a spill

Collect spillage.
Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

Appropriate containment techniques

Neutralisation techniques.
Use of adsorbent materials.

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.
In case of inadequate ventilation wear respiratory protection.
Do not get in eyes, on skin, or on clothing.
Do not breathe vapour/spray.
Handle and open container with care.
Keep container tightly closed.

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.
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.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.

Specific notes/details

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 are heavier than air, spread along floors and form explosive mixtures with air.
Vapours may form explosive mixtures with air.

Handling of incompatible substances or mixtures

Do not mix with alkali.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.
Wash hands after use.
Preventive skin protection (barrier creams/ointments) is recommended.
Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Explosive atmospheres

Keep container tightly closed and in a well-ventilated place.
Use local and general ventilation.
Keep cool.
Protect from sunlight.

Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

Flammability hazards

Keep away from sources of ignition - No smoking.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharge.
Ground/bond container and receiving equipment.
Protect from sunlight.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat, frost

Consideration of other advice

Keep away from food, drink and animal feeding stuffs.
Store locked up.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Keep container tightly closed in a cool place.
Store in a well-ventilated place.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

Coun-try	Name of agent	CAS No	Identi-fier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Nota-tion	Source
EU	oxalic acid	144-62-7	IOELV		1				2006/15/EC
EU	acetone	67-64-1	IOELV	500	1,210				2000/39/EC
EU	orthophosphoric acid	7664-38-2	IOELV		1		2		2000/39/EC
EU	hydrogen fluoride	7664-39-3	IOELV	1.8	1.5	3	2.5		2000/39/EC
GB	oxalic acid	144-62-7	WEL		1		2		EH40/2005
GB	propan-2-ol	67-63-0	WEL	400	999	500	1,250		EH40/2005

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Notation	Source
GB	acetone	67-64-1	WEL	500	1,210	1,500	3,620		EH40/2005
GB	orthophosphoric acid	7664-38-2	WEL		1		2		EH40/2005
GB	hydrogen fluoride	7664-39-3	WEL	1.8	1.5	3	2.5	F	EH40/2005

Notation

F calculated as F (fluorine)

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
propan-2-ol	67-63-0	DNEL	500 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	888 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	89 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	319 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
propan-2-ol	67-63-0	DNEL	26 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
acetone	67-64-1	DNEL	1,210 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
acetone	67-64-1	DNEL	186 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
acetone	67-64-1	DNEL	200 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
acetone	67-64-1	DNEL	62 mg/kg bw/day	human, dermal	consumer (private households)	chronic - 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
acetone	67-64-1	DNEL	62 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
hydrofluoric acid	7664-39-3	DNEL	1.5 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
hydrofluoric acid	7664-39-3	DNEL	1.5 µg/m³	human, inhalatory	worker (industry)	chronic - local effects
hydrofluoric acid	7664-39-3	DNEL	0.03 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
hydrofluoric acid	7664-39-3	DNEL	0.2 mg/m³	human, inhalatory	consumer (private households)	chronic - local effects
hydrofluoric acid	7664-39-3	DNEL	0.01 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
oxalic acid	144-62-7	DNEL	0.466 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
oxalic acid	144-62-7	DNEL	0.882 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
oxalic acid	144-62-7	DNEL	3.11 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
oxalic acid	144-62-7	DNEL	0.315 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
oxalic acid	144-62-7	DNEL	0.315 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
propan-2-ol	67-63-0	PNEC	140.9 $^{mg}/_{l}$	marine water
propan-2-ol	67-63-0	PNEC	2,251 $^{mg}/_{l}$	sewage treatment plant (STP)
propan-2-ol	67-63-0	PNEC	552 $^{mg}/_{kg}$	freshwater sediment
propan-2-ol	67-63-0	PNEC	552 $^{mg}/_{kg}$	marine sediment

Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
propan-2-ol	67-63-0	PNEC	140.9 mg/l	freshwater
propan-2-ol	67-63-0	PNEC	28 mg/kg	soil
acetone	67-64-1	PNEC	10.6 mg/l	freshwater
acetone	67-64-1	PNEC	1.06 mg/l	marine water
acetone	67-64-1	PNEC	100 mg/l	sewage treatment plant (STP)
acetone	67-64-1	PNEC	30.4 mg/kg	freshwater sediment
acetone	67-64-1	PNEC	3.04 mg/kg	marine sediment
acetone	67-64-1	PNEC	29.5 mg/kg	soil
hydrofluoric acid	7664-39-3	PNEC	0.9 mg/l	freshwater
hydrofluoric acid	7664-39-3	PNEC	0.9 mg/l	marine water
hydrofluoric acid	7664-39-3	PNEC	51 mg/l	sewage treatment plant (STP)
hydrofluoric acid	7664-39-3	PNEC	11 mg/kg	soil
oxalic acid	144-62-7	PNEC	0.1622 mg/l	freshwater
oxalic acid	144-62-7	PNEC	1,550 mg/l	sewage treatment plant (STP)
oxalic acid	144-62-7	PNEC	0.016 mg/l	marine water

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Eye/face protection

Wear eye/face protection.

Hand protection

Protective gloves

Material	Material thickness	Breakthrough times of the glove material
no information available	no information available	no information available

Wear suitable gloves.
Chemical protection gloves are suitable, which are tested according to EN 374.
Check leak-tightness/impermeability prior to use.
In the case of wanting to use the gloves again, clean them before taking off and air them well.
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.

Other protection measures

Protective clothing against liquid chemicals.
Acid-resistant, acid-proof overalls or apron.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination.
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
Form	Fluid
Colour	Colourless to pale yellow
Odour	Characteristic
Odour threshold	These information are not available

Other safety parameters

pH (value)	acid
Melting point/freezing point	These information are not available
Initial boiling point and boiling range	>35 °C
Flash point	<23 °C
Evaporation rate	These information are not available
Flammability (solid, gas)	Not relevant (fluid)

Explosive limits

Lower explosion limit (LEL)	These information are not available
Upper explosion limit (UEL)	These information are not available
Vapour pressure	These information are not available
Density	These information are not available

Vapour density	These information are not available
Relative density	These information are not available
Solubility(ies)	
Water solubility	Miscible in any proportion
Partition coefficient	
n-octanol/water (log KOW)	These information are not available
Auto-ignition temperature	These information are not available
Relative self-ignition temperature for solids	Not relevant (Fluid)
Decomposition temperature	These information are not available
Viscosity	
Kinematic viscosity	These information are not available
Dynamic viscosity	These information are not available
Explosive properties	vapours may form explosive mixtures with air
Oxidising properties	Shall not be classified as oxidising

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

Risk of ignition.
Substance or mixture corrosive to metals.

If heated:

risk of ignition

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Vapours may form explosive mixtures with air.
Strong exothermic reaction with strong alkalis.
Metals (due to the release of hydrogen in an acid medium).

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharge.

Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.

10.5 Incompatible materials

bases (caustic solutions), strong oxidiser, glass, metals

10.6 Hazardous decomposition products

Corrosive gases / vapors.
Hydrogen fluoride (HF).
Hydrogen.
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification procedure

If not otherwise specified the classification is based on:
Ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Test data are not available for the complete mixture.
Toxic if swallowed.
Fatal in contact with skin.

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
propan-2-ol	67-63-0	inhalation: vapour	20 $^{mg}/_{l}$/4h
phosphoric acid	7664-38-2	oral	500 $^{mg}/_{kg}$
hydrofluoric acid	7664-39-3	oral	5 $^{mg}/_{kg}$
hydrofluoric acid	7664-39-3	dermal	5 $^{mg}/_{kg}$
hydrofluoric acid	7664-39-3	inhalation: vapour	0.638 $^{mg}/_{l}$/4h
oxalic acid	144-62-7	oral	475 $^{mg}/_{kg}$
oxalic acid	144-62-7	dermal	1,100 $^{mg}/_{kg}$

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	End-point	Value	Species	Method	Source
propan-2-ol	67-63-0	oral	LD50	5,840 $^{mg}/_{kg}$	rat	OECD Guideline 401	ECHA

Acute toxicity of components of the mixture							
Name of substance	**CAS No**	**Exposure route**	**End-point**	**Value**	**Species**	**Method**	**Source**
propan-2-ol	67-63-0	dermal	LD50	13,100 $^{mg}/_{kg}$	rabbit	OECD Guideline 402	ECHA
acetone	67-64-1	oral	LD50	5,800 $^{mg}/_{kg}$	rat	OECD Guideline 401	ECHA
acetone	67-64-1	dermal	LD50	>15,800 $^{mg}/_{kg}$	rabbit		GESTIS
acetone	67-64-1	inhalation: vapour	LC50	76 $^{mg}/_{l}$/ 4h	rat		GESTIS
oxalic acid	144-62-7	oral	LD50	475 $^{mg}/_{kg}$	rat, male		ECHA

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Classification procedure

The classification is based on an extreme pH value.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Skin sensitisation
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Respiratory sensitisation
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Carcinogenicity

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Reproductive toxicity

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Test data are not available for the complete mixture.

Aquatic toxicity (acute) of components of the mixture

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
propan-2-ol	67-63-0	LC50	9,640 mg/l	fathead minnow (Pimephales promelas)	OECD Guideline 203	ECHA	96 h
propan-2-ol	67-63-0	LC50	>10,000 mg/l	daphnia magna	OECD Guideline 202	ECHA	24 h
acetone	67-64-1	LC50	5,540 mg/l	rainbow trout (Oncorhynchus mykiss)		ECHA	96 h
acetone	67-64-1	LC50	8,800 mg/l	daphnia pulex		ECHA	48 h
phosphoric acid	7664-38-2	EC50	>100 mg/l	daphnia magna	OECD Guideline 202	ECHA	48 h
phosphoric acid	7664-38-2	ErC50	>100 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA	72 h
hydrofluoric acid	7664-39-3	EC50	26 – 48 mg/l	Trichoptera		ECHA	96 h
hydrofluoric acid	7664-39-3	ErC50	43 mg/l	algae		ECHA	96 h
oxalic acid	144-62-7	LC50	160 mg/l	orfe (Leuciscus idus)		ECHA	48 h

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
oxalic acid	144-62-7	EC50	162.2 mg/l	daphnia magna	OECD Guideline 202	ECHA	48 h
oxalic acid	144-62-7	EC50	>18.39 – <19.92 mg/l	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA	72 h
oxalic acid	144-62-7	ErC50	>19.83 – <21.35 mg/l	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA	72 h

Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

Aquatic toxicity (chronic) of components of the mixture

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
acetone	67-64-1	EC50	61.15 g/l	activated sludge of a predominantly domestic sewage	OECD Guideline 209	ECHA	30 min
acetone	67-64-1	NOEC	1,106 – 2,212 mg/l	daphnia magna		ECHA	28 d
acetone	67-64-1	LOEC	2,212 mg/l	daphnia magna		ECHA	28 d
acetone	67-64-1	growth (EbCx) 12%	1,000 mg/l	activated sludge of a predominantly domestic sewage	OECD Guideline 209	ECHA	30 min
phosphoric acid	7664-38-2	EC50	>1,000 mg/l	activated sludge of a predominantly domestic sewage	OECD Guideline 209	ECHA	3 h
phosphoric acid	7664-38-2	NOEC	1,000 mg/l	activated sludge of a predominantly domestic sewage	OECD Guideline 209	ECHA	3 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
phosphoric acid	7664-38-2	NOEC	100 $^{mg}/_{l}$	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA	72 h
hydrofluoric acid	7664-39-3	NOEC	4 $^{mg}/_{l}$	rainbow trout (Oncorhynchus mykiss)		ECHA	21 d
hydrofluoric acid	7664-39-3	NOEC	3.7 $^{mg}/_{l}$	daphnia magna		ECHA	21 d
hydrofluoric acid	7664-39-3	NOEC	50 $^{mg}/_{l}$	algae		ECHA	7 d
oxalic acid	144-62-7	growth (EbCx) 10%	>5.14 – <6.01 $^{mg}/_{l}$	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA	72 h
oxalic acid	144-62-7	growth rate (ErCx) 10%	>7.06 – <8.08 $^{mg}/_{l}$	algae (pseudokirchneriella subcapitata)	OECD Guideline 201	ECHA	72 h

12.2 Persistence and degradability

Degradability of components of the mixture

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
propan-2-ol	67-63-0	oxygen depletion	53 %	5 d	EU method C.5	ECHA
acetone	67-64-1	carbon dioxide generation	90.9 %	28 d	OECD Guideline 301 B	ECHA
oxalic acid	144-62-7	oxygen depletion	89 %	20 d	EU method C.5	ECHA

Biodegradation

No data available.

Persistence

No data available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

Bioaccumulative potential of components of the mixture

Bioaccumulative potential of components of the mixture			
Name of substance	**CAS No**	**BCF**	**Log KOW**
propan-2-ol	67-63-0		0.05 (20 °C)
acetone	67-64-1		-0.24
hydrofluoric acid	7664-39-3	53 – 58	
oxalic acid	144-62-7		-1.7 (23 °C)

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

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

12.6 Other adverse effects

Data are not available.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): 1
Keep away from drains, surface and ground water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Completely emptied packages can be recycled.
Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1	**UN number**	3286
14.2	**UN proper shipping name**	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
	Technical name (hazardous ingredients)	isopropanol, hydrofluoric acid
14.3	**Transport hazard class(es)**	
	Class	3

	Subsidiary risk(s)	6.1 8 (acute toxicity) (corrosive effects)
14.4	**Packing group**	II
14.5	**Environmental hazards**	-
14.6	**Special precautions for user**	-
14.7	**Transport in bulk according to Annex II of MARPOL and the IBC Code**	-

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	3286
Proper shipping name	UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S., (contains: isopropanol, hydrofluoric acid), 3 (6.1+8), II, (D/E)
Class	3
Classification code	FTC
Packing group	II
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

International Maritime Dangerous Goods Code (IMDG)

UN number	3286
Proper shipping name	UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S., (contains: isopropanol, hydrofluoric acid), 3 (6.1+8), II, <23°C c.c.
Class	3

Subsidiary risk(s)	6.1+8
Marine pollutant	-
Packing group	II
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)

UN number	3286
Proper shipping name	UN3286, Flammable liquid, toxic, corrosive, n.o.s., (contains: isopropanol, hydrofluoric acid), 3 (6.1+8), II
Class	3
Subsidiary risk(s)	6.1+8
Packing group	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)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)

Name of substance	Name acc. to inventory	CAS No	Restriction
LEU SG	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3
propan-2-ol	flammable / pyrophoric		R40
acetone	flammable / pyrophoric		R40

Legend

R3 1. Shall not be used in:
- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
- can be used as fuel in decorative oil lamps for supply to the general public, and,
- present an aspiration hazard and are labelled with R65 or H304,
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
(a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage';
(b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter may lead to life threatening lung damage';
(c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.

Legend

R40 1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:
- metallic glitter intended mainly for decoration,
- artificial snow and frost,
- 'whoopee' cushions,
- silly string aerosols,
- imitation excrement,
- horns for parties,
- decorative flakes and foams,
- artificial cobwebs,
- stink bombs.

2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:
'For professional users only'.

3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).

4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

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

None of the ingredients are listed.

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)
P5c	flammable liquids (cat. 2, 3)	5,000	50,000	51)

Notation

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

51) flammable liquids, categories 2 or 3 not covered by P5a and P5b

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

None of the ingredients are listed.

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Regulation 648/2004/EC on detergents

Labelling of contents	
Wt%	**Constituents**
< 5 %	phosphates

Water Framework Directive (WFD)

Not all ingredients are listed.

List of pollutants (WFD)

Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
oxalic acid	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)	
propan-2-ol	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)	
propan-2-ol	Biocides and plant protection products		A)	
acetone	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

Regulation 98/2013/EU on the marketing and use of explosives precursors

Not all ingredients are listed.

Explosives precursors which are subject to restrictions					
Name of substance	**CAS No**	**Type of registration**	**Remarks**	**Limit value**	**Upper limit value for the purpose of licensing under Article 5(3)**
acetone	67-64-1	Annex II			

Legend

annex II Substances on their own or in mixtures or in substances for which suspicious transactions shall be reported

Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)

None of the ingredients are listed.

Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)

None of the ingredients are listed.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Indication of changes (revised safety data sheet)		
Section	**Former entry (text/value)**	**Actual entry (text/value)**
1.3	Details of the supplier of the safety data sheet: Uniter Chemie GmbH Ostring 16 D-44787 Bochum Germany Telephone: ++49 (0) 234 - 18487 Telefax: ++49 (0) 234 - 67175 e-mail: info@uniter.com	Details of the supplier of the safety data sheet: Uniter Chemie GmbH Lötscher Weg 48 D-41334 Nettetal Germany Telephone: ++49 (0) 2153 - 9789-0 Telefax: ++49 (0) 2153 - 9789-29 e-mail: info@uniter.com
2.1		Classification: change in the listing (table)
2.2		Hazard statements: change in the listing (table)
2.2		Precautionary statements: change in the listing (table)

Indication of changes (revised safety data sheet)		
Section	**Former entry (text/value)**	**Actual entry (text/value)**
3.2		Hazardous ingredients: change in the listing (table)
8.1		Relevant DNELs of components of the mixture: change in the listing (table)
8.1		Relevant PNECs of components of the mixture: change in the listing (table)
8.2		Protective gloves: change in the listing (table)

Abbreviations and acronyms

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
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
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
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

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
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
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
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
LOEC	Lowest Observed Effect Concentration
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
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
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

Abbreviations and acronyms	
Abbr.	**Descriptions of used abbreviations**
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).
International Maritime Dangerous Goods Code (IMDG).
Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.
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)

List of relevant phrases (code and full text as stated in chapter 2 and 3)	
Code	**Text**
H225	Highly flammable liquid and vapour.
H290	May be corrosive to metals.
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.

List of relevant phrases (code and full text as stated in chapter 2 and 3)	
Code	**Text**
H336	May cause drowsiness or dizziness.

Responsible for the safety data sheet

C.S.B. GmbH
Düsseldorfer Str. 113
47809 Krefeld, Germany

Telephone: +49 (0) 2151 - 652086 - 0
Telefax: +49 (0) 2151 - 652086 - 9
e-Mail: info@csb-online.de
Website: www.csb-online.de

Disclaimer

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