



Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

D19 Water Spot Remover

version number GHS 2.0.

revision 2019-10-07.

SECTION 1: Identification

- 1.1 Product identifier**
Trade name D19 Water Spot Remover
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
Relevant identified uses Vehicle water spot remover
Uses advised against Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin.
- 1.3 Details of the supplier of the safety data sheet**
B&B Blending, LLC
10963 Leroy Drive
Northglenn
CO 80233
United States

telephone
1.800.875.6320, 1.303.289.6320
e-mail: info@bbblending.com
website
bbblending.com
e-mail (competent person) Btirrell@bbblending.com
- 1.4 Emergency telephone number**
Emergency information service USA 1.800.535.5053, INTL 1.352.323.3500
24 hour emergency number

SECTION 2: Hazard(s) identification

- 2.1 Classification of the substance or mixture**
Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Section	Hazard class	Category	Hazard class and category	Hazard statement
A.10	Acute toxicity (oral)	4	Acute Tox. 4	H302
A.1D	Acute toxicity (dermal)	2	Acute Tox. 2	H310
A.1I	Acute toxicity (inhal.)	4	Acute Tox. 4	H332
A.2	Skin corrosion/irritation	1	Skin Corr. 1	H314
A.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
A.6	Carcinogenicity	1A	Carc. 1A	H350
B.16	Substance or mixture corrosive to metals	1	Met. Corr. 1	H290

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.

- 2.2 Label elements**



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Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Signal word Danger

Pictograms

GHS05, GHS06,
GHS08



Hazard statements

H290 May be corrosive to metals.
H302+H332 Harmful if swallowed or if inhaled.
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
H350 May cause cancer.

Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.
P234 Keep only in original container.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P262 Do not get in eyes, on skin, or on clothing.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
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.
P321 Specific treatment (see on this label).
P352 Wash with plenty of water.
P362 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous ingredients for labelling

Sulfuric acid ... %
Hydrofluoric acid ... %
Alkyl (C10-16) benzenesulfonic acid
Alcohols, C9-11 ethoxylated

2.3 Other hazards

Hazards not otherwise classified

Toxic to aquatic life with long lasting effects (GHS category 2: aquatic toxicity - acute and/or chronic).

Results of PBT and vPvB assessment

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



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SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

Description of the mixture

Hazardous ingredients acc. to GHS				
Name of substance	Identifier	Wt%	Classification acc. to GHS	Notes
sulfuric acid ... %	CAS No 7664-93-9	3 - < 12	Acute Tox. 3 / H331 Skin Corr. 1A / H314 Eye Dam. 1 / H318 Carc. 1A / H350	B(a) IARC: 1 IOELV RoC "Known"
alkyl (C10-16) benzenesulfonic acid	CAS No 63584-22-5	3 - < 12	Acute Tox. 4 / H302 Skin Corr. 1 / H314 Eye Dam. 1 / H318	
hydrofluoric acid ... %	CAS No 7664-39-3 RTECS No MW7875000	1 - < 3	Acute Tox. 2 / H300 Acute Tox. 1 / H310 Acute Tox. 2 / H330 Skin Corr. 1A / H314 Eye Dam. 1 / H318	B(a) IOELV
Alcohols, C9-11 ethoxylated	CAS No 68439-46-3	1 - < 3	Acute Tox. 4 / H302 Acute Tox. 4 / H312 Eye Dam. 1 / H318	
sodium hydroxide	CAS No 1310-73-2	0.1 - < 1	Skin Corr. 1A / H314 Eye Dam. 1 / H318 Met. Corr. 1 / H290	
diethanolamine oleate	CAS No 13961-86-9	0.1 - < 1	Acute Tox. 3 / H301 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319	
2,2'-iminodiethanol	CAS No 111-42-2	0.1 - < 1	Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Dam. 1 / H318 Carc. 2 / H351 STOT RE 2 / H373	IARC: 2B

Notes

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

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

IARC: 2B: IARC group 2B: possibly carcinogenic to humans (International Agency for Research on Cancer)

2B:

IOELV: Substance with a community indicative occupational exposure limit value

RoC NTP-RoC: Known To Be A Human Carcinogen

"Known":

For full text of abbreviations: see SECTION 16. Exact percentage of ingredients is withheld as a trade secret.



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SECTION 4: First-aid measures

4.1 Description of first- aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Follow water rinsing by massaging with calcium gluconate (2.5%) gel. Continue massaging with gel while seeking medical attention.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate with calcium gluconate (1.0%) solution. Seek immediate medical attention.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. If patient is conscious and able to swallow give oral calcium solutions or calcium based antacids or milk. Seek immediate medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Risk of hypocalcemia (possible life threatening lowering of serum calcium). May cause severe chemical burns which may not be immediately apparent.

4.3 Indication of any immediate medical attention and special treatment needed

Immediately seek medical attention in any cases of exposure.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray. BC-powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Substance or mixture corrosive to metals.

Hazardous combustion products

Nitrogen oxides (NO_x). Carbon monoxide (CO). Carbon dioxide (CO₂).

5.3 Advice for firefighters

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



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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

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

Wipe up with absorbent material (e.g. cloth, fleece). collect spillage
sawdust
kieselgur (diatomite)
sand
universal binder

Appropriate containment 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

Recommendations

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feed-stuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

Control of the effects

Protect against external exposure, such as

Frost.

General rule

Do not use for squirting or spraying.

Ventilation requirements

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



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Packaging compatibilities

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

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
US	diethanolamine	111-42-2	PEL (CA)	0.46	2						Cal/OSHA PEL
US	diethanolamine	111-42-2	REL	3 (10 h)	15 (10 h)						NIOSH REL
US	diethanolamine	111-42-2	TLV®		1					iv	ACGIH® 2019
US	sodium hydroxide	1310-73-2	REL						2		NIOSH REL
US	sodium hydroxide	1310-73-2	TLV®						2		ACGIH® 2019
US	sodium hydroxide	1310-73-2	PEL		2						29 CFR 1910.1000
US	sodium hydroxide (caustic soda)	1310-73-2	PEL (CA)						2		Cal/OSHA PEL
US	hydrogen fluoride	7664-39-3	REL	3 (10 h)	2.5 (10 h)			6 (15 min)	5 (15 min)		NIOSH REL
US	hydrogen fluoride	7664-39-3	TLV®	0.5				2		F	ACGIH® 2019
US	hydrogen fluoride	7664-39-3	PEL	3						F	29 CFR 1910.1000
US	hydrogen fluoride (hydrofluoric acid)	7664-39-3	PEL (CA)	0.4	0.33	1	0.83			F	Cal/OSHA PEL
US	sulfuric acid	7664-93-9	PEL (CA)		0.1		3				Cal/OSHA PEL
US	sulfuric acid	7664-93-9	REL		1 (10 h)						NIOSH REL



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Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
US	sulfuric acid	7664-93-9	PEL		1						29 CFR 1910.1000
US	sulfuric acid	7664-93-9	TLV®		0.2					t	ACGIH® 2019

Notation

- Ceiling-C Ceiling value is a limit value above which exposure should not occur
- F Calculated as F (fluorine)
- iv Inhalable fraction and vapor
- 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)
- t Thoracic fraction
- 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	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
sulfuric acid ... %	7664-93-9	DNEL	0.05 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
sulfuric acid ... %	7664-93-9	DNEL	0.1 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
hydrofluoric acid ... %	7664-39-3	DNEL	1.5 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
hydrofluoric acid ... %	7664-39-3	DNEL	2.5 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
hydrofluoric acid ... %	7664-39-3	DNEL	1.5 µg/m ³	human, inhalatory	worker (industry)	chronic - local effects
hydrofluoric acid ... %	7664-39-3	DNEL	2.5 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
Alcohols, C9-11 ethoxylated	68439-46-3	DNEL	2,080 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
Alcohols, C9-11 ethoxylated	68439-46-3	DNEL	294 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
sodium hydroxide	1310-73-2	DNEL	1 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
2,2'-iminodiethanol	111-42-2	DNEL	1 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
2,2'-iminodiethanol	111-42-2	DNEL	0.13 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects



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Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
sulfuric acid ... %	7664-93-9	PNEC	0.003 mg/l	aquatic organisms	freshwater	short-term (single instance)
sulfuric acid ... %	7664-93-9	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
sulfuric acid ... %	7664-93-9	PNEC	8.8 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
sulfuric acid ... %	7664-93-9	PNEC	0.002 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
sulfuric acid ... %	7664-93-9	PNEC	0.002 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
hydrofluoric acid ... %	7664-39-3	PNEC	51 mg/l	microorganisms	sewage treatment plant (STP)	short-term (single instance)
hydrofluoric acid ... %	7664-39-3	PNEC	0.9 mg/l	aquatic organisms	freshwater	short-term (single instance)
hydrofluoric acid ... %	7664-39-3	PNEC	0.9 mg/l	aquatic organisms	marine water	short-term (single instance)
hydrofluoric acid ... %	7664-39-3	PNEC	51 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
hydrofluoric acid ... %	7664-39-3	PNEC	11 mg/kg	terrestrial organisms	soil	short-term (single instance)
Alcohols, C9-11 ethoxylated	68439-46-3	PNEC	0.1038 mg/l	aquatic organisms	freshwater	short-term (single instance)
Alcohols, C9-11 ethoxylated	68439-46-3	PNEC	0.1038 mg/l	aquatic organisms	marine water	short-term (single instance)
Alcohols, C9-11 ethoxylated	68439-46-3	PNEC	1.4 mg/l	microorganisms	sewage treatment plant (STP)	short-term (single instance)
Alcohols, C9-11 ethoxylated	68439-46-3	PNEC	13.7 mg/kg	benthic organisms	sediment	short-term (single instance)
Alcohols, C9-11 ethoxylated	68439-46-3	PNEC	13.7 mg/kg	pelagic organisms	sediment	short-term (single instance)
Alcohols, C9-11 ethoxylated	68439-46-3	PNEC	1 mg/kg	terrestrial organisms	soil	short-term (single instance)
Alcohols, C9-11 ethoxylated	68439-46-3	PNEC	0.014 mg/l	aquatic organisms	water	intermittent release
2,2'-iminodiethanol	111-42-2	PNEC	0.02 mg/l	aquatic organisms	freshwater	short-term (single instance)
2,2'-iminodiethanol	111-42-2	PNEC	0.002 mg/l	aquatic organisms	marine water	short-term (single instance)
2,2'-iminodiethanol	111-42-2	PNEC	100 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
2,2'-iminodiethanol	111-42-2	PNEC	0.092 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
2,2'-iminodiethanol	111-42-2	PNEC	0.009 mg/kg	aquatic organisms	marine sediment	short-term (single instance)



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Relevant PNECs of components of the mixture						
Name of sub-stance	CAS No	End-point	Threshold level	Organism	Environment-al compartment	Exposure time
2,2'-iminodiethanol	111-42-2	PNEC	0.007 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/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. 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

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

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
Color	Off-white - Translucent
Odor	Sharp

Other safety parameters

PH (value)	<1 (25 °C)
Melting point/freezing point	Not determined
Initial boiling point and boiling range	19.44 °C
Flash point	Not determined
Evaporation rate	Not determined
Flammability (solid, gas)	Not relevant Fluid



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Explosive limits	Not determined
Vapor pressure	783 mmHg
Density	1.049 g/ml
Vapor density	This information is not available
Solubility(ies)	Not determined

Partition coefficient

- n-octanol/water (log KOW)	This information is not available
Auto-ignition temperature	311 °C
Viscosity	Not determined
Explosive properties	None
Oxidizing properties	None

9.2 Other information

Temperature class (USA, acc. to NEC 500)	T2 Maximum permissible surface temperature on the equipment: 300 °C
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SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". Substance or mixture corrosive to metals.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

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

10.5 Incompatible materials

Oxidizers.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.



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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 OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Harmful if swallowed. Fatal in contact with skin. Harmful if inhaled.

Acute toxicity estimate (ATE)

Oral 1,439 mg/kg
 Dermal 181.1 mg/kg
 Inhalation: vapor 13.19 mg/l/4h

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
sulfuric acid ... %	7664-93-9	inhalation: vapor	3 mg/l/4h
sulfuric acid ... %	7664-93-9	inhalation: dust/mist	0.85 mg/l/4h
alkyl (C10-16) benzenesulfonic acid	63584-22-5	oral	500 mg/kg
hydrofluoric acid ... %	7664-39-3	oral	50 mg/kg
hydrofluoric acid ... %	7664-39-3	dermal	5 mg/kg
hydrofluoric acid ... %	7664-39-3	inhalation: vapor	0.5 mg/l/4h
Alcohols, C9-11 ethoxylated	68439-46-3	oral	1,200 mg/kg
Alcohols, C9-11 ethoxylated	68439-46-3	dermal	2,000 mg/kg
diethanolamine oleate	13961-86-9	oral	100 mg/kg
2,2'-iminodiethanol	111-42-2	oral	1,100 mg/kg

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

May cause cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans			
Name of substance	CAS No	Classification	Number
2,2'-iminodiethanol	111-42-2	2B	
sulfuric acid ... %	7664-93-9	1	

Legend

1 Carcinogenic to humans
 2B Possibly carcinogenic to humans



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National Toxicology Program (United States): Report on Carcinogens

Name of substance	CAS No	Classification	Number
sulfuric acid ... %	7664-93-9	Known to be a human carcinogen	9th Report on Carcinogens

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

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.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
sulfuric acid ... %	7664-93-9	EC50	>100 mg/l	aquatic invertebrates	48 h
sulfuric acid ... %	7664-93-9	ErC50	>100 mg/l	algae	72 h
alkyl (C10-16) benzenesulfonic acid	63584-22-5	LC50	1.67 mg/l	fish	96 h
alkyl (C10-16) benzenesulfonic acid	63584-22-5	EC50	47.3 mg/l	algae	72 h
alkyl (C10-16) benzenesulfonic acid	63584-22-5	EC50	2.4 mg/l	daphnia	48 h
hydrofluoric acid ... %	7664-39-3	EC50	48 mg/l	aquatic invertebrates	96 h
Alcohols, C9-11 ethoxylated	68439-46-3	LC50	8.5 mg/l	fathead minnow	96 h
Alcohols, C9-11 ethoxylated	68439-46-3	EC50	5.3 mg/l	daphnia magna	48 h
Alcohols, C9-11 ethoxylated	68439-46-3	ErC50	1 - 10 mg/l	algae	96 h
sodium hydroxide	1310-73-2	EC50	40.4 mg/l	aquatic invertebrates	48 h
2,2'-iminodiethanol	111-42-2	LC50	460 mg/l	fish	96 h
2,2'-iminodiethanol	111-42-2	EC50	30.1 mg/l	aquatic invertebrates	48 h
2,2'-iminodiethanol	111-42-2	ErC50	9.5 mg/l	algae	72 h



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Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
2,2'-iminodiethanol	111-42-2	EC50	11.82 mg/l	aquatic invertebrates	21 d

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

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

Endocrine disrupting potential

None of the ingredients are listed.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used. 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. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	UN number	2922
14.2	UN proper shipping name	Corrosive liquid, toxic, n.o.s.
14.3	Transport hazard class(es)	
	Class	8 Corrosive substances
	Subsidiary risk(s)	6.1 Acute toxicity
14.4	Packing group	II Substance presenting medium danger
14.5	Environmental hazards	Hazardous to the aquatic environment
	Environmentally hazardous substance (aquatic environment)	Sulfuric acid ... %
14.6	Special precautions for user	
	There is no additional information.	
14.7	Transport in bulk according to Annex II of MARPOL and the IBC Code	
	The cargo is not intended to be carried in bulk.	



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14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT)

Index number 2922
Proper shipping name Corrosive liquid, toxic, n.o.s.
Particulars in the shipper's declaration UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), II, environmentally hazardous
Class 8
Subsidiary risk(s) 6.1
Packing group II
Danger label(s) 8+6.1
Fish and tree



Environmental hazards Yes
Hazardous to the aquatic environment
Special provisions (SP) B3, IB2, T7, TP2

ERG No 154
International Maritime Dangerous Goods Code (IMDG)

UN number 2922
Proper shipping name CORROSIVE LIQUID, TOXIC, N.O.S.
Class 8
Subsidiary risk(s) 6.1
Marine pollutant Yes
Hazardous to the aquatic environment
Packing group II
Danger label(s) 8+6.1
Fish and tree



Special provisions (SP) 274
Excepted quantities (EQ) E2
Limited quantities (LQ) 1 L
EmS F-A, S-B
Stowage category B
Clear of living quarters

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number 2922
Proper shipping name Corrosive liquid, toxic, n.o.s.
Class 8
Subsidiary risk(s) 6.1
Environmental hazards Yes
Hazardous to the aquatic environment
Packing group II
Danger label(s) 8+6.1



Special provisions (SP) A3
Excepted quantities (EQ) E2
Limited quantities (LQ) 0,5 L



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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities				
Name acc. to inventory	CAS No	Notes	Reportable quantity (pounds)	Threshold planning quantity (pounds)
hydrogen fluoride	7664-39-3		100	100
sulfuric acid	7664-93-9		1,000	1000

Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings			
Name acc. to inventory	CAS No	Remarks	Effective date
hydrogen fluoride	7664-39-3		1986-12-31
diethanolamine	111-42-2		1986-12-31
sulfuric acid	7664-93-9	acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size	1986-12-31

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
sodium hydroxide	1310-73-2		1	1000 (454)
hydrofluoric acid ... %	7664-39-3		1 3 4	100 (45,4)
2,2'-iminodiethanol	111-42-2		3	100 (45,4)
sulfuric acid ... %	7664-93-9		1	1000 (454)

Legend

- 1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act
- 3 "3" indicates that the source is section 112 of the Clean Air Act
- 4 "4" indicates that the source is section 3001 of the Resource Conservation and Recovery Act (RCRA)

Clean Air Act

Name of substance	CAS No	Type of registration	Basis for listing	Threshold quantity (lbs)
hydrofluoric acid ... %	7664-39-3	Toxic substance	a b	1000

Legend

- a Mandated for listing by Congress.
- b On EHS list, vapor pressure 10 mmHg or greater.



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New Jersey Worker and Community Right to Know Act

Right to Know Hazardous Substance List			
Name acc. to inventory	CAS No	Remarks	Classifications
sodium hydroxide (caustic soda)	1310-73-2		CO R1
hydrogen fluoride (hydrofluoric acid) (hydrofluoric acid)	7664-39-3		CO R1
diethanolamine	111-42-2		CO
sulfuric acid	7664-93-9		CA CO R2

Legend

- CA Carcinogenic
- CO Corrosive
- R1 Reactive - First Degree
- R2 Reactive - Second Degree

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Proposition 65 List of chemicals				
Name acc. to inventory	CAS No	Wt%	Remarks	Type of the toxicity
formaldehyde	50-00-0	0.00075	gas	cancer
diethanolamine	111-42-2	0.272		cancer

VOC content

Regulated Volatile Organic Compounds (VOC-EPA). 0.00075 %. Regulated Volatile Organic Compounds (VOC-Cal ARB). 0.0045 %.

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	*	chronic (long-term) health effects may result from repeated overexposure
Health	3	major injury likely unless prompt action is taken and medical treatment is given
Flammability	1	material that must be preheated before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).



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Category	Degree of hazard	Description
Flammability	1	material that must be preheated before ignition can occur
Health	3	material that, under emergency conditions, can cause serious or permanent injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

National inventories

Country	Inventory	Status
CA	DSL	not all ingredients are listed
EU	REACH Reg.	not all ingredients are listed
US	TSCA	not all ingredients are listed

Legend

DSL Domestic Substances List (DSL)

REACH Reg. REACH registered substances

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, including date of preparation or last revision

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
7.1	Measures to prevent fire as well as aerosol and dust generation: Use local and general ventilation. Use only in well-ventilated areas. Never add water to this product.	Measures to prevent fire as well as aerosol and dust generation: Use local and general ventilation. Use only in well-ventilated areas.	yes
7.1	Handling of incompatible substances or mixtures: Do not mix with alkali.		yes
7.1	Keep away from: Caustic solutions.		yes
9.1	PH (value): <1 (25 °C) Acid	PH (value): <1 (25 °C)	yes
10.5	Release of flammable materials with: Light metals (due to the release of hydrogen in an acid/alkaline medium).		yes
15.1		Right to Know Hazardous Substance List: change in the listing (table)	yes

Abbreviations and acronyms



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Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR § 40 U.S. Department of Transportation
ACGIH® 2019	From ACGIH®, 2019 TLVs® and BEIs® Book. Copyright 2019. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
Cal ARB	California Air Resources Board
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
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
EmS	Emergency Schedule
EPA	Environmental Protection Agency. An agency of the federal government of the United States charged with protecting human health and the environment
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
ERG No	Emergency Response Guidebook - Number
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Met. Corr.	Substance or mixture corrosive to metals
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
NTP-RoC	National Toxicology Program (United States): Report on Carcinogens
OSHA	Occupational Safety and Health Administration (United States)



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Abbr.	Descriptions of used abbreviations
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
TLV®	Threshold Limit Values
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties. The classification is based on tested mixture.

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

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

Code	Text
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.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H350	May cause cancer.



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Code	Text
H351	Suspected of causing cancer.
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.