Safety Data Sheet

According to Regulation (EC) No 1907/2006

Diversey X 13

Revision: 2025-04-14 **Version:** 10.0

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

1.1 Product identifier

Trade name: Diversey X 13

UFI: K96K-T13R-3000-PA5Y

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

Product use: Descaling agent.
For professional use only.

Uses advised against: Uses other than those identified are not recommended.

SWED - Sector-specific worker exposure description :
AISE_SWED_PW_8a_1
AISE_SWED_PW_10_2
AISE_SWED_PW_11_2
AISE_SWED_PW_19_2

1.3 Details of the supplier of the safety data sheet

Diversey Europe Operations BV, De Corridor 4, 3621ZB Breukelen [Maarssenbroeksedijk 2, 3542DN Utrecht], The Netherlands

Contact details
Diversey S.P.A.
Strada Statale 235, 26010 Bagnolo Cremasco (CR)
Tel: 039 959 1150, E-mail: info.italy@solenis.com

1.4 Emergency telephone number

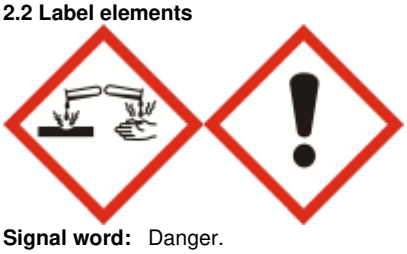
Seek medical advice (show the label or safety data sheet where possible).
Bergamo - CAV Azienda Ospedaliera Papa Giovanni XXIII, Tel. 800.88.33.00
Firenze - CAV Azienda Ospedaliera “Careggi” U.O. Tossicologia Medica, Tel. (+39) 055.794.7819
Foggia - CAV “Azienda Ospedaliera Università di Foggia”, Tel. 800.183.459
Milano - CAV Ospedale Niguarda, Tel. (+39) 02.66.1010.29
Napoli - CAV “Azienda Ospedaliera A. Cardarelli”, Tel. (+39) 081.545.3333
Pavia - CAV Centro Nazionale di Informazione Tossicologica, Tel. (+39) 0382.24.444
Roma - CAV “Ospedale Pediatrico Bambino Gesù”, Tel. (+39) 06.6859.3726
Roma - CAV Policlinico “A. Gemelli”, Tel. (+39) 06.305.4343
Roma - CAV Policlinico “Umberto I”, Tel. (+39) 06.4997.8000
Verona - CAV Centro antiveleni Veneto, Tel. 800.011.858.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Skin corrosion, Category 1B (H314)
Specific target organ toxicity - Single exposure, Category 3 (H335)
Serious eye damage, Category 1 (H318)
Corrosive to metals, Category 1 (H290)

2.2 Label elements



Signal word: Danger.

Contains Hydrochloric acid (Hydrochloric Acid), ammonium bifluoride (Ammonium Bifluoride), alkyl alcohol ethoxylate (Trideceth 7-10)

Hazard statements:
H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.

Precautionary statements:
P260 - Do not breathe vapours.
P280 - Wear protective gloves, protective clothing and eye or face protection.
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 CENTRE, doctor or physician.

2.3 Other hazards
No other hazards known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Ingredient(s)	EC number	CAS number	REACH number	Classification	Notes	Weight percent
Hydrochloric acid	231-595-7	7647-01-0	01-2119484862-27	Skin corrosion, Category 1A (H314) Specific target organ toxicity - Single exposure, Category 3 (H335) Corrosive to metals, Category 1 (H290)		10-20
ammonium bifluoride	215-676-4	1341-49-7	01-2119489180-38	Acute toxicity - Oral, Category 3 (H301) Skin corrosion, Category 1B (H314) Serious eye damage, Category 1 (H318)		1-3
alkyl alcohol ethoxylate	[4]	69011-36-5	[4]	Acute toxicity - Oral, Category 4 (H302) Serious eye damage, Category 1 (H318)		1-3

Specific concentration limits
Hydrochloric acid:
• Serious eye damage, Category 1 (H318) >= 1%
• Skin corrosion, Category 1A (H314) >= 25% > Skin corrosion, Category 1B (H314) >= 10% > Skin irritation, Category 2 (H315) >= 1%
• Specific target organ toxicity - Single exposure, Category 3 (H335) >= 10%
ammonium bifluoride:
• Serious eye damage, Category 1 (H318) >= 1% > Eye irritation, Category 2 (H319) >= 0.1%
• Skin corrosion, Category 1B (H314) >= 1% > Skin irritation, Category 2 (H315) >= 0.1%

Workplace exposure limit(s), if available, are listed in subsection 8.1.
ATE, if available, are listed in section 11.
[4] Exempted: polymer. See Article 2(9) of Regulation (EC) No 1907/2006.
For the full text of the H and EUH phrases mentioned in this Section, see Section 16..

SECTION 4: First aid measures

4.1 Description of first aid measures

General Information: Symptoms of intoxication may even occur after several hours. It is recommended to continue medical observation for at least 48 hours after the incident. If unconscious place in recovery position and seek medical advice. Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

Inhalation: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE, doctor or physician if you feel unwell.

Skin contact: Wash skin with plenty of lukewarm, gently flowing water for at least 30 minutes. Take off immediately all contaminated clothing and wash it before reuse. Immediately call a POISON CENTRE, doctor or physician.

Eye contact: Hold eyelids apart and flush eyes with plenty of lukewarm water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE, doctor or physician.

Ingestion: Rinse mouth. Immediately drink 1 glass of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Keep at rest. Immediately call a POISON CENTRE, doctor or physician.

Self-protection of first aider: Consider personal protective equipment as indicated in subsection 8.2.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: May cause respiratory irritation.

Skin contact: Causes severe burns.

Eye contact: Causes severe or permanent damage.

Ingestion: Ingestion will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.

4.3 Indication of any immediate medical attention and special treatment needed
No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Carbon dioxide. Dry powder. Water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture
No special hazards known.

5.3 Advice for firefighters
As in any fire, wear self contained breathing apparatus and suitable protective clothing including gloves and eye/face protection.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation. Do not breathe dust or vapour. Wear suitable protective clothing. Wear eye/face protection. Wear suitable gloves.

6.2 Environmental precautions
Dilute with plenty of water. Do not allow to enter drainage system, surface or ground water.

6.3 Methods and material for containment and cleaning up
Ensure adequate ventilation. Dyke to collect large liquid spills. Use neutralising agent. Absorb with liquid-binding material (sand, diatomite, universal binders). Do not place spilled materials back into the original container. Collect in closed and suitable containers for disposal.

6.4 Reference to other sections
For personal protective equipment see subsection 8.2. For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Measures to prevent fire and explosions:
No special precautions required.

Measures required to protect the environment:
For environmental exposure controls see subsection 8.2.

Advice on general occupational hygiene:
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not mix with other products unless advised by Diversey. Wash face, hands and any exposed skin thoroughly after handling. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Avoid contact with skin and eyes. Do not breathe vapours. Do not breathe spray. Use only outdoors or in a well-ventilated area. See chapter 8.2, Exposure controls / Personal protection.

7.2 Conditions for safe storage, including any incompatibilities
Store in accordance with local and national regulations. Store in a closed container. Keep only in original packaging.
For conditions to avoid see subsection 10.4. For incompatible materials see subsection 10.5.

7.3 Specific end use(s)
No specific advice for end use available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Workplace exposure limits

Air limit values, if available:

Ingredient(s)	Long term value(s)	Short term value(s)	Ceiling value(s)
Hydrochloric acid	5 ppm (ISPESL) 8 mg/m³ (ISPESL)	10 ppm (ISPESL) 15 mg/m³ (ISPESL)	2 ppm (AIDII) 2.9 mg/m³ (AIDII)
ammonium bifluoride	2.5 mg/m³ (ISPESL) 2.5 mg/m³ (AIDII)		

Biological limit values, if available:

Recommended monitoring procedures, if available:

Additional exposure limits under the conditions of use, if available:

DNEL/DMEL and PNEC values
Human exposure
DNEL/DMEL oral exposure - Consumer (mg/kg bw)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
Hydrochloric acid	-	-	-	-
ammonium bifluoride	-	-	-	0.015
alkyl alcohol ethoxylate	-	-	-	-

DNEL/DMEL dermal exposure - Worker

Ingredient(s)	Short term - Local effects	Short term - Systemic effects (mg/kg bw)	Long term - Local effects	Long term - Systemic effects (mg/kg bw)
Hydrochloric acid	-	-	-	-
ammonium bifluoride	-	-	-	-
alkyl alcohol ethoxylate	-	-	-	-

DNEL/DMEL dermal exposure - Consumer

Ingredient(s)	Short term - Local effects	Short term - Systemic effects (mg/kg bw)	Long term - Local effects	Long term - Systemic effects (mg/kg bw)
Hydrochloric acid	-	-	-	-
ammonium bifluoride	-	-	-	-
alkyl alcohol ethoxylate	-	-	-	-

DNEL/DMEL inhalatory exposure - Worker (mg/m³)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
Hydrochloric acid	15	-	8	-
ammonium bifluoride	3.8	-	-	2.3
alkyl alcohol ethoxylate	-	-	-	-

DNEL/DMEL inhalatory exposure - Consumer (mg/m³)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
Hydrochloric acid	-	-	-	-
ammonium bifluoride	-	-	-	0.045
alkyl alcohol ethoxylate	-	-	-	-

Environmental exposure

Environmental exposure - PNEC

Ingredient(s)	Surface water, fresh (mg/l)	Surface water, marine (mg/l)	Intermittent (mg/l)	Sewage treatment plant (mg/l)
Hydrochloric acid	0.036	0.036	0.045	0.036
ammonium bifluoride	1.3	-	-	76
alkyl alcohol ethoxylate	-	-	-	-

Environmental exposure - PNEC, continued

Ingredient(s)	Sediment, freshwater (mg/kg)	Sediment, marine (mg/kg)	Soil (mg/kg)	Air (mg/m³)
Hydrochloric acid	-	-	0.036	-
ammonium bifluoride	-	-	22	-
alkyl alcohol ethoxylate	-	-	-	-

8.2 Exposure controls

The following information applies for the uses indicated in subsection 1.2 of the Safety Data Sheet.
If available, please refer to the product information sheet for application and handling instructions.
Normal use conditions are assumed for this section.

Recommended safety measures for handling the undiluted product:

Appropriate engineering controls: If the product is diluted by using specific dosing systems with no risk of splashes or direct skin contact, the personal protection equipment as described in this section is not required.

Appropriate organisational controls: Avoid direct contact and/or splashes where possible. Train personnel.

REACH use scenarios considered for the undiluted product:

	SWED - Sector-specific worker exposure description	LCS	PROC	Duration (min)	ERC
Manual transfer and dilution	AISE_SWED_PW_8a_1	PW	PROC 8a	60	ERC8a

Personal protective equipment

Eye / face protection: Safety glasses or goggles (EN 16321). The use of a full-face shield or other full-face protection is

strongly recommended when handling open containers or if splashes may occur.

Hand protection: Chemical-resistant protective gloves (EN 374). Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier. Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.
Suggested gloves for prolonged contact: Material: butyl rubber Penetration time: ≥ 480 min Material thickness: ≥ 0.7 mm
Suggested gloves for protection against splashes: Material: nitrile rubber Penetration time: ≥ 30 min Material thickness: ≥ 0.4 mm
In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

Body protection: Wear chemical-resistant clothing and boots in case direct dermal exposure and/or splashes may occur (EN 14605).

Respiratory protection: If exposure to liquid particles or splashes cannot be avoided use: half mask (EN 140) with particle filter P2 (EN 143) or full-face mask (EN 136) with particle filter P1 (EN 143) Consider specific local use conditions. In consultation with the supplier of respiratory protection equipment a different type providing similar protection may be chosen. Specific applications tools may be available to limit exposure. Please refer to the product information sheet for the possibilities. Apply technical measures to comply with the occupational exposure limits, if available.

Environmental exposure controls: Should not reach sewage water or drainage ditch undiluted or unneutralised.

Recommended safety measures for handling the diluted product:

Recommended maximum concentration (% w/w): 50

Appropriate engineering controls: Provide a good standard of general ventilation.
Appropriate organisational controls: Avoid direct contact and/or splashes where possible. Train personnel. Users are advised to consider national Occupational Exposure Limits or other equivalent values, if available.

REACH use scenarios considered for the diluted product:

	SWED	LCS	PROC	Duration (min)	ERC
Manual application by brushing, wiping or mopping	AISE_SWED_PW_10_2	PW	PROC 10	480	ERC8a
Spray application	AISE_SWED_PW_11_2	PW	PROC 11	60	ERC8a
Manual application	AISE_SWED_PW_19_2	PW	PROC 19	480	ERC8a

Personal protective equipment

Eye / face protection: Goggles (EN 16321).

Hand protection: Rinse and dry hands after use. For prolonged contact protection for the skin may be necessary. Repeated or prolonged contact: Chemical-resistant protective gloves (EN 374). Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier. Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.
Suggested gloves for prolonged contact: Material: butyl rubber Penetration time: ≥ 480 min Material thickness: ≥ 0.7 mm
Suggested gloves for protection against splashes: Material: nitrile rubber Penetration time: ≥ 30 min Material thickness: ≥ 0.4 mm
In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

Body protection: No special requirements under normal use conditions.

Respiratory protection: Respiratory protection is not normally required. However, inhalation of vapour, spray, gas or aerosols should be avoided. Trigger spray bottle application: No special requirements under normal use conditions. Apply technical measures to comply with the occupational exposure limits, if available.

Environmental exposure controls: No special requirements under normal use conditions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
Information in this section refers to the product, unless it is specifically stated that substance data is listed

	Method / remark
Physical state: Liquid	
Colour: Clear , Colourless	
Odour: Product specific	
Odour threshold: Not applicable	
Melting point/freezing point (°C): Not determined	Not relevant to classification of this product
Initial boiling point and boiling range (°C): Not determined	See substance data

Substance data, boiling point

Ingredient(s)	Value (°C)	Method	Atmospheric pressure (hPa)

Hydrochloric acid	50-90	Method not given	
ammonium bifluoride	Product decomposes before boiling		
alkyl alcohol ethoxylate	> 200	Method not given	

Method / remark

Flammability (solid, gas): Not applicable to liquids
Flammability (liquid): Not flammable.
Flash point (°C): Not determined
Sustained combustion: Not applicable.
(UN Manual of Tests and Criteria, section 32, L.2)
Lower and upper explosion limit/flammability limit (%): Not determined — See substance data

Substance data, flammability or explosive limits, if available:

Method / remark

Autoignition temperature: Not determined
Decomposition temperature: Not applicable.
pH: =< 2 (neat) — ISO 4316
Dilution pH: < 2 (50 %) — ISO 4316
Kinematic viscosity: Not determined
Solubility in / Miscibility with water: Fully miscible

Substance data, solubility in water

Ingredient(s)	Value (g/l)	Method	Temperature (°C)
Hydrochloric acid	500	Method not given	
ammonium bifluoride	602		20
alkyl alcohol ethoxylate	Soluble	Method not given	20

Substance data, partition coefficient n-octanol/water (log Kow): see subsection 12.3

Method / remark

Vapour pressure: Not determined — See substance data

Substance data, vapour pressure

Ingredient(s)	Value (Pa)	Method	Temperature (°C)
Hydrochloric acid	1450-6100	Method not given	20
ammonium bifluoride	1.08		20
alkyl alcohol ethoxylate	Negligible	Method not given	20-25

Method / remark

Relative density: ≈ 1.10 (20 °C) — OECD 109 (EU A.3)
Relative vapour density: No data available. — Not relevant to classification of this product
Particle characteristics: No data available. — Not applicable to liquids.

9.2 Other information
9.2.1 Information with regard to physical hazard classes
Explosive properties: Not explosive.
Oxidising properties: Not oxidising.
Corrosion to metals: Corrosive

9.2.2 Other safety characteristics
No other relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability
Stable under normal storage and use conditions.

10.3 Possibility of hazardous reactions
No hazardous reactions known under normal storage and use conditions.

10.4 Conditions to avoid
None known under normal storage and use conditions.

10.5 Incompatible materials

May be corrosive to metals. Reacts with alkali. Keep away from products containing chlorine-based bleaching agents or sulphites.

10.6 Hazardous decomposition products
None known under normal storage and use conditions.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Mixture data: .

Relevant calculated ATE(s):
ATE - Oral (mg/kg): >2000

Substance data, where relevant and available, are listed below:.

Acute toxicity
Acute oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)	ATE Oral (mg/kg)
Hydrochloric acid	LD_{50}	900	Rabbit	Method not given		Not established
ammonium bifluoride	LD_{50}	130	Rat	OECD 401 (EU B.1)		130
alkyl alcohol ethoxylate	LD_{50}	> 300-2000	Rat	OECD 423 (EU B.1 tris)		Not established

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)	ATE Dermal (mg/kg)
Hydrochloric acid	LD_{50}	> 5010	Rabbit	Method not given		Not established
ammonium bifluoride		No data available				Not established
alkyl alcohol ethoxylate	LD_{50}	> 2000	Rabbit	Method not given		Not established

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
Hydrochloric acid	LC_{50}	8 (mist)	Rat	Method not given	0.5
ammonium bifluoride		No data available			
alkyl alcohol ethoxylate		No data available			

Acute inhalative toxicity, continued

Ingredient(s)	ATE - inhalation, dust (mg/l)	ATE - inhalation, mist (mg/l)	ATE - inhalation, vapour (mg/l)	ATE - inhalation, gas (mg/l)
Hydrochloric acid	Not established	Not established	Not established	Not established
ammonium bifluoride	Not established	Not established	Not established	Not established
alkyl alcohol ethoxylate	Not established	Not established	Not established	Not established

Irritation and corrosivity
Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
Hydrochloric acid	Corrosive	Rabbit	Method not given	
ammonium bifluoride	Corrosive			
alkyl alcohol ethoxylate	Not irritant	Rabbit	OECD 404 (EU B.4)	

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
Hydrochloric acid	Corrosive Severe damage	Rabbit	OECD 405 (EU B.5)	
ammonium bifluoride	Severe damage			
alkyl alcohol ethoxylate	Severe damage	Rabbit	Method not given	

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
Hydrochloric acid	Irritating to respiratory tract			
ammonium bifluoride	No data available			

alkyl alcohol ethoxylate	No data available			

Sensitisation

Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
Hydrochloric acid	Not sensitising	Guinea pig	OECD 406 (EU B.6) / GPMT	
ammonium bifluoride	No data available			
alkyl alcohol ethoxylate	Not sensitising	Guinea pig	Method not given	

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
Hydrochloric acid	No data available			
ammonium bifluoride	No data available			
alkyl alcohol ethoxylate	No data available			

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Mutagenicity

Ingredient(s)	Result (in-vitro)	Method (in-vitro)	Result (in-vivo)	Method (in-vivo)
Hydrochloric acid	No evidence for mutagenicity	OECD 471 (EU B.12/13)	No data available	
ammonium bifluoride	No data available		No data available	
alkyl alcohol ethoxylate	No evidence of genotoxicity, negative test results	Method not given	No evidence of genotoxicity, negative test results	Method not given

Carcinogenicity

Ingredient(s)	Effect
Hydrochloric acid	No evidence for carcinogenicity, negative test results
ammonium bifluoride	No data available
alkyl alcohol ethoxylate	No evidence for carcinogenicity, weight-of-evidence

Toxicity for reproduction

Ingredient(s)	Endpoint	Specific effect	Value (mg/kg bw/d)	Species	Method	Exposure time	Remarks and other effects reported
Hydrochloric acid			No data available				No evidence for reproductive toxicity
ammonium bifluoride			No data available				
alkyl alcohol ethoxylate	NOAEL	Teratogenic effects	> 50	Rat	Not known		No known significant effects or critical hazards

Repeated dose toxicity

Sub-acute or sub-chronic oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
Hydrochloric acid		No data available				
ammonium bifluoride		No data available				
alkyl alcohol ethoxylate		No data available				

Sub-chronic dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
Hydrochloric acid		No data available				
ammonium bifluoride		No data available				
alkyl alcohol ethoxylate		No data available				

Sub-chronic inhalation toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
Hydrochloric acid		No data available				
ammonium bifluoride		No data available				
alkyl alcohol ethoxylate		No data				

		available				

Chronic toxicity

Ingredient(s)	Exposure route	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time	Specific effects and organs affected	Remark
Hydrochloric acid			No data available					
ammonium bifluoride	Oral	NOEL	300 ppm					Other reported data:
alkyl alcohol ethoxylate	Oral	NOAEL	50	Rat	Method not given	24 month(s)	Effects on organ weights	

STOT-single exposure

Ingredient(s)	Affected organ(s)
Hydrochloric acid	No data available
ammonium bifluoride	No data available
alkyl alcohol ethoxylate	Not applicable

STOT-repeated exposure

Ingredient(s)	Affected organ(s)
Hydrochloric acid	No data available
ammonium bifluoride	No data available
alkyl alcohol ethoxylate	Not applicable

Aspiration hazard
Substances with an aspiration hazard (H304), if any, are listed in section 3.

Potential adverse health effects and symptoms
Effects and symptoms related to the product, if any, are listed in subsection 4.2.

11.2 Information on other hazards
11.2.1 Endocrine disrupting properties
Endocrine disrupting properties - Human data, if available:

11.2.2 Other information
No other relevant information available.

SECTION 12: Ecological information

12.1 Toxicity

No data is available on the mixture .

Substance data, where relevant and available, are listed below:

Aquatic short-term toxicity
Aquatic short-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
Hydrochloric acid	LC_{50}	7.45	*Various species*	Method not given	96
ammonium bifluoride	LC_{50}	422	*Fish*	Method not given	
alkyl alcohol ethoxylate	LC_{50}	> 1 - 10	*Cyprinus carpio*	OECD 203 (EU C.1)	96

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
Hydrochloric acid	EC_{50}	0.492	*Daphnia magna Straus*	Method not given	48
ammonium bifluoride	EC_{50}	10.5	*Daphnia magna Straus*	Method not given	48
alkyl alcohol ethoxylate	EC_{50}	1 - 10	*Daphnia magna Straus*	OECD 202, static	48

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
Hydrochloric acid	EC_{50}	0.73	*Pseudokirchneriella subcapitata*	Method not given	72
ammonium bifluoride	EC_{50}	43	*Not specified*	Method not given	96
alkyl alcohol ethoxylate	EC_{50}	1 - 10	*Desmodesmus*	OECD 201, static	72

			subspicatus		

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
Hydrochloric acid		No data available			
ammonium bifluoride		No data available			
alkyl alcohol ethoxylate		No data available			

Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time
Hydrochloric acid		No data available			
ammonium bifluoride		No data available			
alkyl alcohol ethoxylate	EC_{10}	> 10000	*Activated sludge*	DIN 38412 / Part 8	17 hour(s)

Aquatic long-term toxicity

Aquatic long-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
Hydrochloric acid		No data available				
ammonium bifluoride	NOEC	4	*Oncorhynchus mykiss*	Method not given	21 day(s)	
alkyl alcohol ethoxylate		No data available				

Aquatic long-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
Hydrochloric acid		No data available				
ammonium bifluoride	NOEC	8.9	*Daphnia magna*		21 day(s)	
alkyl alcohol ethoxylate		No data available				

Aquatic toxicity to other aquatic benthic organisms, including sediment-dwelling organisms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw sediment)	Species	Method	Exposure time (days)	Effects observed
Hydrochloric acid		No data available				
ammonium bifluoride		No data available				
alkyl alcohol ethoxylate		No data available				

Terrestrial toxicity

Terrestrial toxicity - soil invertebrates, including earthworms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
Hydrochloric acid		No data available				
alkyl alcohol ethoxylate	NOEC	220	*Eisenia fetida*			

Terrestrial toxicity - plants, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
Hydrochloric acid		No data available				
alkyl alcohol ethoxylate	NOEC	10	*Lepidium sativum*	OECD 208		

Terrestrial toxicity - birds, if available:

Ingredient(s)	Endpoint	Value	Species	Method	Exposure time (days)	Effects observed

Hydrochloric acid		No data available				

Terrestrial toxicity - beneficial insects, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
Hydrochloric acid		No data available				

Terrestrial toxicity - soil bacteria, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
Hydrochloric acid		No data available				

12.2 Persistence and degradability

Abiotic degradation

Abiotic degradation - photodegradation in air, if available:

Ingredient(s)	Half-life time	Method	Evaluation	Remark
Hydrochloric acid	No data available			

Abiotic degradation - hydrolysis, if available:

Ingredient(s)	Half-life time in fresh water	Method	Evaluation	Remark
Hydrochloric acid	No data available			

Abiotic degradation - other processes, if available:

Ingredient(s)	Type	Half-life time	Method	Evaluation	Remark
Hydrochloric acid		No data available			

Biodegradation

Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT_{50}	Method	Evaluation
Hydrochloric acid					Not applicable (inorganic substance)
ammonium bifluoride					Not applicable (inorganic substance)
alkyl alcohol ethoxylate	Activated sludge, aerobe	CO_2 production	> 60 % in 28 day(s)	OECD 301B	Readily biodegradable

Ready biodegradability - anaerobic and marine conditions, if available:

Ingredient(s)	Medium & Type	Analytical method	DT_{50}	Method	Evaluation
Hydrochloric acid					No data available

Degradation in relevant environmental compartments, if available:

Ingredient(s)	Medium & Type	Analytical method	DT_{50}	Method	Evaluation
Hydrochloric acid					No data available

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow)

Ingredient(s)	Value	Method	Evaluation	Remark
Hydrochloric acid	-0.25	Method not given	No bioaccumulation expected	
ammonium bifluoride	No data available			
alkyl alcohol ethoxylate	4.09	QSAR	No bioaccumulation expected	

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
Hydrochloric acid	No data available				
ammonium bifluoride	-			Not relevant, does not bioaccumulate	
alkyl alcohol ethoxylate	-			No bioaccumulation expected	

12.4 Mobility in soil

Adsorption/Desorption to soil or sediment

Ingredient(s)	Adsorption coefficient Log Koc	Desorption coefficient Log Koc(des)	Method	Soil/sediment type	Evaluation

Hydrochloric acid	No data available				High potential for mobility in soil
ammonium bifluoride	No data available				
alkyl alcohol ethoxylate	No data available				Immobile in soil or sediment

12.5 Results of PBT and vPvB assessment
Substances that fulfill the criteria for PBT/vPvB, if any, are listed in section 3.

12.6 Endocrine disrupting properties
Endocrine disrupting properties - Environmental effects, if available:

12.7 Other adverse effects
No other adverse effects known.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste from residues / unused products: The concentrated contents or contaminated packaging should be disposed of by a certified handler or according to the site permit. Release of waste to sewers is discouraged. The cleaned packaging material is suitable for energy recovery or recycling in line with local legislation.

European Waste Catalogue: 20 01 14* - acids.

Empty packaging

Recommendation: Dispose of observing national or local regulations.

Suitable cleaning agents: Water, if necessary with cleaning agent.

SECTION 14: Transport information

Land transport (ADR/RID), Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)

14.1 UN number or ID number: 3264

14.2 UN proper shipping name:

Corrosive liquid, acidic, inorganic, n.o.s. (hydrochloric acid , ammonium hydrogendifluoride)

Corrosive liquid, acidic, inorganic, n.o.s. (hydrochloric acid , ammonium hydrogendifluoride)

14.3 Transport hazard class(es):

Transport hazard class (and subsidiary risks): 8

14.4 Packing group: III

14.5 Environmental hazards:

Environmentally hazardous: No

Marine pollutant: No

14.6 Special precautions for user: None known.

14.7 Maritime transport in bulk according to IMO instruments: The product is not transported in bulk tankers.

Other relevant information:

ADR

Classification code: C1

Tunnel restriction code: (E)

Hazard identification number: 80

IMO/IMDG

EmS: F-A, S-B

The product has been classified, labelled and packaged in accordance with the requirements of ADR and the provisions of the IMDG Code
Transport regulations include special provisions for certain classes of dangerous goods packed in limited quantities.

SECTION 15: Regulatory information

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

EU regulations:

• Regulation (EC) No. 1907/2006 - REACH
• Regulation (EC) No 1272/2008 - CLP
• Regulation (EC) No. 648/2004 - Detergents regulation
• substances identified as having endocrine disrupting properties in accordance with the criteria set out in Delegated Regulation (EU) 2017/2100 or Regulation (EU) 2018/605
• Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)
• International Maritime Dangerous Goods (IMDG) Code

Authorisations or restrictions (Regulation (EC) No 1907/2006, Title VII respectively Title VIII): Not applicable.

Ingredients according to EC Detergents Regulation 648/2004
non-ionic surfactants < 5 %

The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

Seveso - Classification: Not classified

15.2 Chemical safety assessment
A chemical safety assessment has not been carried out on the mixture

SECTION 16: Other information

The information in this document is based on our best present knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally binding contract

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Reason for revision:
This data sheet contains changes from the previous version in section(s):, 1, 2, 3, 4, 8, 9, 11, 12, 16

Classification procedure
The classification of the mixture is in general based on calculation methods using substance data, as required by Regulation (EC) No 1272/2008. If for certain classifications data on the mixture is available or for example bridging principles or weight of evidence can be used for classification, this will be indicated in the relevant sections of the Safety Data Sheet. See section 9 for physical chemical properties, section 11 for toxicological information and section 12 for ecological information.

Abbreviations and acronyms:
• AISE - The international Association for Soaps, Detergents and Maintenance Products
• ATE - Acute Toxicity Estimate
• DNEL - Derived No Effect Limit
• EC50 - effective concentration, 50%
• ERC - Environmental release categories
• EUH - CLP Specific hazard statement
• LC50 - Lethal Concentration, 50% / Median Lethal Concentration
• LCS - Life cycle stage
• LD50 - Lethal Dose, 50% / Median Lethal dose
• NOAEL - No observed adverse effect level
• NOEL - No observed effect level
• OECD - Organisation for Economic Cooperation and Development
• PBT - Persistent, Bioaccumulative and Toxic
• PNEC - Predicted No Effect Concentration
• PROC - Process categories
• REACH number - REACH registration number, without supplier specific part
• vPvB - very Persistent and very Bioaccumulative
• H290 - May be corrosive to metals.
• H301 - Toxic if swallowed.
• H302 - Harmful if swallowed.
• H314 - Causes severe skin burns and eye damage.
• H318 - Causes serious eye damage.
• H335 - May cause respiratory irritation.
• H402 - Harmful to aquatic life.

End of Safety Data Sheet