



Safety Data Sheet according to (EC) No 1907/2006 as amended

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BONDERITE C-IC 18010 Liquid

SDS No. : 670489
V005.1

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

1.1. Product identifier

BONDERITE C-IC 18010 Liquid

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

Intended use:

Descaling Agents, Derusting Agents

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA

Henkelstr. 67

40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com

For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or www.henkel-adhesives.com.

1.4. Emergency telephone number

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Corrosive to metals	Category 1
H290 May be corrosive to metals.	
Acute toxicity	Category 4
H302 Harmful if swallowed.	
Route of Exposure: Oral	
Acute toxicity	Category 4
H312 Harmful in contact with skin.	
Route of Exposure: Dermal	
Skin corrosion	Category 1A
H314 Causes severe skin burns and eye damage.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:**Contains**

Sulfuric acid
sodium 3-nitrobenzenesulphonate
hydrofluoric acid

Signal word:

Danger

Hazard statement:

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.

Supplemental information

Can attack glass and vitreous materials.

**Precautionary statement:
Prevention**

P260 Do not breathe mist/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary statement:
Response**

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.

2.3. Other hazards

None if used properly.
Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

Following substances are present in a concentration $\geq 0,1\%$ and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in concentration \geq the concentration limit that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Sulfuric acid 7664-93-9 231-639-5 01-2119458838-20	20- 40 %	Skin Corr. 1A, H314 Met. Corr. 1, H290	Met. Corr. 1; H290; C >= 1 % Skin Corr. 1A; H314; C >= 15 % Skin Irrit. 2; H315; C 5 - < 15 % Eye Irrit. 2; H319; C 5 - < 15 %	EU OEL EUEXPL1D
Phosphoric acid 7664-38-2 231-633-2 01-2119485924-24	10- 20 %	Met. Corr. 1, H290 Skin Corr. 1B, H314 Acute Tox. 4, Oral, H302	Skin Corr. 1B; H314; C >= 25 % Eye Irrit. 2; H319; C 10 - < 25 % Skin Irrit. 2; H315; C 10 - < 25 % ===== oral:ATE = 1.500 mg/kg	EU OEL
fluoroboric acid 16872-11-0 240-898-3 01-2119979570-28	5- < 10 %	Skin Corr. 1B, H314 Met. Corr. 1, H290	Skin Corr. 1B; H314; C >= 25 % Skin Irrit. 2; H315; C 10 - < 25 % % Eye Irrit. 2; H319; C 10 - < 25 %	EU OEL
sodium 3-nitrobenzenesulphonate 127-68-4 204-857-3 01-2119965131-44	1- < 5 %	Eye Irrit. 2, H319 Skin Sens. 1, H317		
hydrofluoric acid 7664-39-3 01-2119458860-33	0,1- < 0,5 %	Acute Tox. 2, Inhalation, H330 Skin Corr. 1A, H314 Acute Tox. 2, Oral, H300 Acute Tox. 1, Dermal, H310	Eye Irrit. 2; H319; C 0,1 - < 1 % Skin Corr. 1A; H314; C >= 7 % Skin Corr. 1B; H314; C 1 - < 7 %	EU OEL

For full text of the H - statements and other abbreviations see section 16 "Other information".

Substances without classification may have community workplace exposure limits available.

Declaration of ingredients according to Detergent Regulation 648/2004/EC

5 - 15 %

phosphates

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Move to fresh air.

Immediate medical treatment necessary.

Skin contact:

Remove contaminated clothes while protecting yourself. Immediately rinse with copious amounts of running water (for 10 minutes). Then immediately treat contaminated skin with 2,5% Ca-gluconate gel. Put on a bandage with sterile gauze. GET MEDICAL ATTENTION IMMEDIATELY! Can penetrate into deeper parts of the skin and cause burns which are very painful and cure very slowly.

Eye contact:

Immediately flush eyes with soft jet of water or eye rinse solution for at least 15 minutes. Hold eyelid wide-open. Seek a doctor/hospital, eye flushing should continue during transportation to a doctor.

Ingestion:

Rinse out mouth, drink 1-2 glasses of water, do not induce vomiting.

Immediate medical treatment necessary.

4.2. Most important symptoms and effects, both acute and delayed

Causes burns.

INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

4.3. Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media:**

All common extinguishing agents are suitable.

Extinguishing media which must not be used for safety reasons:

None known

5.2. Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in fires.

5.3. Advice for firefighters

Wear self-contained breathing apparatus.

Wear protective equipment.

Additional information:

Cool endangered containers with water spray jet.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin and eyes.

6.2. Environmental precautions

Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up

Neutralize with acid-binding material (e.g. powdered limestone).

Take up with liquid-absorbing material (sand).

Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Avoid skin and eye contact.

Ensure that workrooms are adequately ventilated.

When diluting, always stir slowly the product into standing water.

See advice in section 8

Hygiene measures:

Wash hands before work breaks and after finishing work.

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

Wash contaminated clothing before reuse.

The workplace should be equipped with an emergency shower and eye-rinsing facility.

7.2. Conditions for safe storage, including any incompatibilities

Store in sealed original container.

Keep only in original container.

7.3. Specific end use(s)

Descaling Agents, Derusting Agents

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Sulphuric acid 7664-93-9 [SULPHURIC ACID (MIST)]		0,05	Time Weighted Average (TWA):	Indicative	ECLTV
Sulphuric acid 7664-93-9			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
Sulphuric acid 7664-93-9		0,1	Exposure limit(s):	1 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Orthophosphoric acid 7664-38-2 [ORTHOPHOSPHORIC ACID]		2	Short Term Exposure Limit (STEL):	Indicative	ECLTV
Orthophosphoric acid 7664-38-2 [ORTHOPHOSPHORIC ACID]		1	Time Weighted Average (TWA):	Indicative	ECLTV
Orthophosphoric acid 7664-38-2			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
Orthophosphoric acid 7664-38-2		2	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Tetrafluoroboric acid 16872-11-0 [FLUORIDES, INORGANIC]		2,5	Time Weighted Average (TWA):	Indicative	ECLTV
Tetrafluoroboric acid 16872-11-0		1	Exposure limit(s):	4 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Tetrafluoroboric acid 16872-11-0			Skin designation:	Can be absorbed through the skin.	TRGS 900
Tetrafluoroboric acid 16872-11-0			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Tetrafluoroboric acid 16872-11-0			Skin designation:	Can be absorbed through the skin.	TRGS 900
Tetrafluoroboric acid 16872-11-0			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Tetrafluoroboric acid 16872-11-0		1	Exposure limit(s):	4 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Hydrogen fluoride 7664-39-3 [Hydrogen fluoride]	1,8	1,5	Time Weighted Average (TWA):	Indicative	ECLTV
Hydrogen fluoride 7664-39-3 [Hydrogen fluoride]	3	2,5	Short Term Exposure Limit (STEL):	Indicative	ECLTV
Hydrogen fluoride 7664-39-3			Skin designation:	Can be absorbed through the skin.	TRGS 900
Hydrogen fluoride			Short Term Exposure	Category I: substances for	TRGS 900

7664-39-3			Classification:	which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	
Hydrogen fluoride 7664-39-3	1	0,83	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
phosphoric acid 7664-38-2	sediment (freshwater)						no hazard identified
phosphoric acid 7664-38-2	sediment (marine water)						no hazard identified
phosphoric acid 7664-38-2	Air						no hazard identified
phosphoric acid 7664-38-2	Soil						no hazard identified
phosphoric acid 7664-38-2	Predator						no potential for bioaccumulation
Sodium 3-nitrobenzenesulphonate 127-68-4	aqua (freshwater)		0,5 mg/l				
Sodium 3-nitrobenzenesulphonate 127-68-4	aqua (marine water)		0,05 mg/l				
Sodium 3-nitrobenzenesulphonate 127-68-4	aqua (intermittent releases)		5 mg/l				
Sodium 3-nitrobenzenesulphonate 127-68-4	sediment (freshwater)				2,58 mg/kg		
Sodium 3-nitrobenzenesulphonate 127-68-4	sediment (marine water)				0,258 mg/kg		
Sodium 3-nitrobenzenesulphonate 127-68-4	Soil				0,222 mg/kg		
Sodium 3-nitrobenzenesulphonate 127-68-4	sewage treatment plant (STP)		10000 mg/l				
hydrofluoric acid 7664-39-3	aqua (freshwater)		0,9 mg/l				
hydrofluoric acid 7664-39-3	aqua (marine water)		0,9 mg/l				
hydrofluoric acid 7664-39-3	Soil				11 mg/kg		
hydrofluoric acid 7664-39-3	sewage treatment plant (STP)		51 mg/l				
hydrofluoric acid 7664-39-3	sediment (freshwater)				3,38 mg/kg		
hydrofluoric acid 7664-39-3	sediment (marine water)				0,338 mg/kg		
hydrofluoric acid 7664-39-3	Predator						no potential for bioaccumulation

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Sulfuric acid 7664-93-9	Workers	inhalation	Acute/short term exposure - local effects		0,1 mg/m ³	
Sulfuric acid 7664-93-9	Workers	inhalation	Long term exposure - local effects		0,05 mg/m ³	
phosphoric acid 7664-38-2	Workers	inhalation	Long term exposure - systemic effects		10,7 mg/m ³	no hazard identified
phosphoric acid 7664-38-2	General population	inhalation	Long term exposure - systemic effects		4,57 mg/m ³	no hazard identified
phosphoric acid 7664-38-2	General population	inhalation	Long term exposure - local effects		0,36 mg/m ³	no hazard identified
phosphoric acid 7664-38-2	General population	oral	Long term exposure - systemic effects		0,1 mg/kg	no hazard identified
phosphoric acid 7664-38-2	Workers	inhalation	Long term exposure - local effects		1 mg/m ³	no hazard identified
phosphoric acid 7664-38-2	Workers	inhalation	Acute/short term exposure - local effects		2 mg/m ³	no hazard identified
fluoroboric acid 16872-11-0	Workers	inhalation	Long term exposure - systemic effects		0,173 mg/m ³	
fluoroboric acid 16872-11-0	Workers	dermal	Long term exposure - systemic effects		0,046 mg/kg	
fluoroboric acid 16872-11-0	General population	inhalation	Long term exposure - systemic effects		0,043 mg/m ³	
fluoroboric acid 16872-11-0	General population	dermal	Long term exposure - systemic effects		0,023 mg/kg	
fluoroboric acid 16872-11-0	General population	oral	Long term exposure - systemic effects		0,023 mg/kg	
Sodium 3-nitrobenzenesulphonate 127-68-4	Workers	Inhalation	Long term exposure - systemic effects		5 mg/m ³	
Sodium 3-nitrobenzenesulphonate 127-68-4	Workers	dermal	Long term exposure - systemic effects		97,6 mg/kg	
Sodium 3-nitrobenzenesulphonate 127-68-4	General population	dermal	Long term exposure - systemic effects		29,3 mg/kg	
Sodium 3-nitrobenzenesulphonate 127-68-4	General population	oral	Long term exposure - systemic effects		2,93 mg/kg	
hydrofluoric acid 7664-39-3	Workers	Inhalation	Acute/short term exposure - local effects		2,5 mg/m ³	no potential for bioaccumulation
hydrofluoric acid 7664-39-3	Workers	Inhalation	Acute/short term exposure - systemic effects		2,5 mg/m ³	no potential for bioaccumulation
hydrofluoric acid 7664-39-3	Workers	Inhalation	Long term exposure - local effects		1,5 mg/m ³	no potential for bioaccumulation
hydrofluoric acid 7664-39-3	Workers	Inhalation	Long term exposure - systemic effects		1,5 mg/m ³	no potential for bioaccumulation
hydrofluoric acid 7664-39-3	General population	Inhalation	Acute/short term exposure - systemic effects		0,03 mg/m ³	no potential for bioaccumulation
hydrofluoric acid 7664-39-3	General population	oral	Acute/short term exposure - systemic effects		0,01 mg/kg	no potential for bioaccumulation
hydrofluoric acid 7664-39-3	General population	Inhalation	Acute/short term exposure - local		1,25 mg/m ³	no potential for bioaccumulation

hydrofluoric acid 7664-39-3	General population	Inhalation	effects Long term exposure - systemic effects		0,03 mg/m ³	no potential for bioaccumulation
hydrofluoric acid 7664-39-3	General population	oral	Long term exposure - systemic effects		0,01 mg/kg	no potential for bioaccumulation
hydrofluoric acid 7664-39-3	General population	inhalation	Long term exposure - local effects		0,2 mg/m ³	no potential for bioaccumulation

Biological Exposure Indices:

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
Tetrafluoroboric acid 16872-11-0 [Inorganic fluorine compounds (fluorides)]	Fluoride	Urine	Sampling time: End of shift.	4,0 mg/l	DE BGW		
Hydrogen fluoride 7664-39-3 [Hydrogen fluoride]	Fluoride	Urine	Sampling time: End of shift.	4,0 mg/l	DE BGW		

8.2. Exposure controls:

Engineering controls:

Ensure good ventilation/suction at the workplace.

Respiratory protection:

In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).

This recommendation should be matched to local conditions.

Hand protection:

Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; \geq 0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; \geq 0.7 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

For eye protection, use tightly fitted safety goggles and a face-shield
Protective eye equipment should conform to EN166.

Skin protection:

Protective clothing that covers arms and legs.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Delivery form	liquid
Colour	colourless, to, yellow
Odor	acidic
Melting point	Not applicable, Product is a liquid
Initial boiling point	100 °C (212 °F) Aqueous solution
Flammability	Not applicable

Explosive limits	Aqueous solution Not applicable, Aqueous solution
Flash point	> 100 °C (> 212 °F)
Auto-ignition temperature	Not applicable, Aqueous solution
Decomposition temperature	Currently under determination
pH (20 °C (68 °F); Conc.: 100 % product)	2,4 PH-value, potentiometer
Viscosity (kinematic) (40 °C (104 °F);)	0,8 - 5 mm ² /s
Viscosity, dynamic (; 20 °C (68 °F))	< 100 cp no method
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Soluble
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure (20 °C (68 °F))	23 hPa Values referring to water
Vapour pressure (50 °C (122 °F))	124 hPa Values referring to water
Density (20 °C (68 °F))	1,22 g/cm ³ density, hydrometer
Relative vapour density: (20 °C)	< 1
Particle characteristics	Not applicable Product is a liquid

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

Reaction with strong bases
Can attack glass and vitreous materials.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

No decomposition if used according to specifications.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

None if used for intended purpose.
In case of fire toxic gases can be released.

SECTION 11: Toxicological information

General toxicological information:

This product contains boric compounds in total quantity equivalent to ≥ 0.96 % bor. Animal tests with high dosages of similar boric compounds have shown reprotoxic effects, which lead to a classification as toxic for reproduction cat. 2, R60 (May impair fertility), R61 (May cause harm to the unborn child)/ H360FD (May damage fertility. May damage the unborn child) from a concentration of 5.5 % onwards, based on boric acid.

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

Acute oral toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Sulfuric acid 7664-93-9	LD50	2.140 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Phosphoric acid 7664-38-2	Acute toxicity estimate (ATE)	1.500 mg/kg		Expert judgement
sodium 3- nitrobenzenesulphonate 127-68-4	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)

Acute dermal toxicity:

Can penetrate into deeper parts of the skin and cause severe burns which are very painful and cure very slowly.

No substance data available.

No substance data available.

Acute inhalative toxicity:

No substance data available.

No data available.

Skin corrosion/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Phosphoric acid 7664-38-2	corrosive	24 h	rabbit	not specified
hydrofluoric acid 7664-39-3	corrosive	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

No data available.

Respiratory or skin sensitization:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Species	Method
sodium 3- nitrobenzenesulphonate 127-68-4	sensitising	Guinea pig maximisation test	guinea pig	EU Method B.6 (Skin Sensitisation)

Germ cell mutagenicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Sulfuric acid 7664-93-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Phosphoric acid 7664-38-2	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Phosphoric acid 7664-38-2	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Phosphoric acid 7664-38-2	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
sodium 3- nitrobenzenesulphonate 127-68-4	negative	in vitro mammalian chromosome aberration test	with and without		not specified
sodium 3- nitrobenzenesulphonate 127-68-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		not specified
hydrofluoric acid 7664-39-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
sodium 3- nitrobenzenesulphonate 127-68-4	negative	oral: unspecified		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

No data available.

Reproductive toxicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Phosphoric acid 7664-38-2	NOAEL P 500 mg/kg NOAEL F1 500 mg/kg	one- generation study	oral: gavage	rat	OECD Combined Repeated Dose and Reproductive / Developmental Toxicity Screening Test (Precursor Protocol of GL 422)

STOT-single exposure:

No data available.

STOT-repeated exposure::

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Sulfuric acid 7664-93-9	LOAEL 0.3 mg/m ³	inhalation: aerosol	28 d 6 h/d, 5 d/w	rat	OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)
Phosphoric acid 7664-38-2	NOAEL 250 mg/kg	oral: gavage	6 w daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
sodium 3- nitrobenzenesulphonate 127-68-4	LOAEL >= 1.000 mg/kg	oral: gavage	28 days daily	rat	Guidelines for 28-Day Repeat Dose Toxicity Test (Japan)
hydrofluoric acid 7664-39-3	NOAEL 0.88 ppm	inhalation: gas	91 d (65 exposures) 6 h/d, 5 days/week	rat	equivalent or similar to OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

SECTION 12: Ecological information

General ecological information:

Do not empty into drains / surface water / ground water.

Locally harmful for aquatic and landliving organisms because of low pH and corrosive properties.

The product does not contain surface-active substances as defined in the EU Detergent Regulation (EC/648/2004).

12.1. Toxicity

Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Sulfuric acid 7664-93-9	LC50	> 16 - 28 mg/l	96 h	Lepomis macrochirus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Phosphoric acid 7664-38-2	LC50	> 100 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
fluoroboric acid 16872-11-0	LC50	1.300 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
sodium 3-nitrobenzenesulphonate 127-68-4	LC50	> 500 mg/l	96 h	Leuciscus idus	DIN 38412-15
hydrofluoric acid 7664-39-3	LC50	51 mg/l	96 h	Oncorhynchus mykiss	other guideline:
hydrofluoric acid 7664-39-3	NOEC	4 mg/l	21 d	Oncorhynchus mykiss	other guideline:
hydrofluoric acid 7664-39-3	LC50	51 mg/l	96 h	Oncorhynchus mykiss	other guideline:
hydrofluoric acid 7664-39-3	NOEC	4 mg/l	21 d	Oncorhynchus mykiss	other guideline:

Toxicity (Daphnia):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Sulfuric acid 7664-93-9	EC50	> 100 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Phosphoric acid 7664-38-2	EC50	> 100 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
fluoroboric acid 16872-11-0	EC50	> 100 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
sodium 3-nitrobenzenesulphonate 127-68-4	EC50	8.665 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
hydrofluoric acid 7664-39-3	EC50	270 mg/l	48 h	Daphnia sp.	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity to aquatic invertebrates

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
fluoroboric acid 16872-11-0	NOEC	188 mg/l	21 d	Daphnia magna	other guideline:
hydrofluoric acid 7664-39-3	NOEC	3,7 mg/l	21 d	Daphnia magna	other guideline:

Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Sulfuric acid 7664-93-9	EC50	> 100 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Phosphoric acid 7664-38-2	EC50	> 100 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Phosphoric acid 7664-38-2	NOEC	100 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
fluoroboric acid 16872-11-0	EC50	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
fluoroboric acid 16872-11-0	NOEC	100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
sodium 3- nitrobenzenesulphonate 127-68-4	EC50	> 500 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
hydrofluoric acid 7664-39-3	EC10	650 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
hydrofluoric acid 7664-39-3	EC50	> 1.000 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity to microorganisms

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Sulfuric acid 7664-93-9	EC0	6.900 mg/l	24 h		not specified
Phosphoric acid 7664-38-2	IC50	270 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
fluoroboric acid 16872-11-0	EC 50	2.490 mg/l			not specified
sodium 3- nitrobenzenesulphonate 127-68-4	EC10	> 10.000 mg/l	17 h		not specified
hydrofluoric acid 7664-39-3	EC10	231 mg/l	16 h	not specified	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
sodium 3- nitrobenzenesulphonate 127-68-4	not readily biodegradable.	aerobic	0 %	30 d	EU Method C.4-E (Determination of the "Ready" Biodegradability/Closed Bottle Test)
sodium 3- nitrobenzenesulphonate 127-68-4	not inherently biodegradable	aerobic	> 90 %		OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
sodium 3-nitrobenzenesulphonate 127-68-4	-2,61	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
Sulfuric acid 7664-93-9	According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances.
Phosphoric acid 7664-38-2	According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances.
fluoroboric acid 16872-11-0	According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances.
sodium 3-nitrobenzenesulphonate 127-68-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
hydrofluoric acid 7664-39-3	According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances.

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

If acidic or alkaline products are discharged into wastewater installations care must be taken that the discharged wastewater has a pH in the range pH 6 - 10, as pH variations could cause disorders in wastewater channels and biological sewage treatment plants. The local discharge regulations take precedence.

waste water: harmful effect due to low pH-value and toxic fluoride component.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

060199

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

SECTION 14: Transport information**14.1. UN number or ID number**

ADR	3264
RID	3264
ADN	3264
IMDG	3264
IATA	3264

14.2. UN proper shipping name

ADR	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid,Phosphoric acid)
RID	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid,Phosphoric acid)
ADN	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid,Phosphoric acid)
IMDG	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid,Phosphoric acid)
IATA	Corrosive liquid, acidic, inorganic, n.o.s. (Sulphuric acid,Phosphoric acid)

14.3. Transport hazard class(es)

ADR	8
RID	8
ADN	8
IMDG	8
IATA	8

14.4. Packing group

ADR	II
RID	II
ADN	II
IMDG	II
IATA	II

14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable Tunnelcode: (E)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable
VOC content (2010/75/EU)	0 %

Acquisition, introduction, possession or use of this product by the general public is restricted by Regulation (EU) 2019/1148. All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Please see https://ec.europa.eu/home-affairs/what-we-do/policies/counter-terrorism/protection/implementation-explosives-precursors-legislation_en.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

National regulations/information (Germany):

WGK:	WGK 1: slightly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV)) Classification according to AwSV, Annex 1 (5.2)
Storage class according to TRGS 510:	8B

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

H290 May be corrosive to metals.
 H300 Fatal if swallowed.
 H302 Harmful if swallowed.
 H310 Fatal in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H330 Fatal if inhaled.

ED:	Substance identified as having endocrine disrupting properties
EU OEL:	Substance with a Union workplace exposure limit
EU EXPLD 1:	Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2	Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC:	Substance of very high concern (REACH Candidate List)
PBT:	Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB:	Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB:	Substance fulfilling very persistent and very bioaccumulative criteria

Further information:

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This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

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Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.

Annex - Exposure Scenarios:

Exposure Scenarios for boric acid can be downloaded under the following link:
<https://mysds.henkel.com/index.html#/appSelection>