



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

Page 1 of 16

BONDERITE M-NT 2040 R2

SDS No. : 409620

V005.0

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

1.1. Product identifier

BONDERITE M-NT 2040 R2

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

Intended use:

Etch Inhibitors

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

Fax-no.: +49 211 798 2009

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

ua-productsafety.de@henkel.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 3
H301 Toxic if swallowed.	
Route of Exposure: Oral	
Acute toxicity	Category 4
H332 Harmful if inhaled.	
Route of Exposure: Inhalation	
Acute toxicity	Category 3
H311 Toxic 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.	

2.2. Label elements**Label elements (CLP):****Hazard pictogram:****Contains**

Sulfuric acid

dihydrogen hexafluorotitanate(2-)

hydrofluoric acid

Signal word:

Danger

Hazard statement:

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H301+H311 Toxic if swallowed or in contact with skin

H332 Harmful if inhaled.

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**

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor.

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.

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.	content	Classification
Sulfuric acid 7664-93-9	231-639-5 01-2119458838-20	10- 20 %	Skin Corr. 1A H314 Met. Corr. 1 H290
dihydrogen hexafluorotitanate(2-) 17439-11-1	241-460-4 01-2119978266-24	5- < 10 %	Acute Tox. 3; Oral H301 Acute Tox. 3; Dermal H311 Skin Corr. 1B H314 Acute Tox. 3; Inhalation H331 Met. Corr. 1 H290
hydrofluoric acid 7664-39-3	231-634-8 01-2119458860-33	1- < 2 %	Acute Tox. 2; Inhalation H330 Acute Tox. 2; Oral H300 Acute Tox. 1; Dermal H310 Skin Corr. 1A H314

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.

SECTION 4: First aid measures

4.1. Description of first aid measures**Inhalation:**

Move to fresh air, administer oxygen , keep warm ; hospitalise.

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

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

Causes burns.

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 protective equipment.

Wear self-contained breathing apparatus.

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

Dispose of contaminated material as waste according to Section 13.

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

Take up with liquid-absorbing material (sand).

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.

See advice in section 8

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

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 only in the original container.

The alterations have no negative influence on the product quality and stability.

Alterations are reversible after warming to room temperature.

Store in a cool place.

Store frost-free.

Keep container tightly sealed.

Store in a cool, well-ventilated place.

Must be stored in a room with spill collection facilities.

Do not use packing made of metal.

Keep only in original container.

Do not store together with food or other consumables (coffee, tea, tobacco, etc.).

Do not store together with strong bases or very alkaline substances.

7.3. Specific end use(s)

Etch Inhibitors

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	ECTLV
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
Dihydrogen hexafluorotitanate(2-) 17439-11-1 [FLUORIDES, INORGANIC]		2,5	Time Weighted Average (TWA):	Indicative	ECTLV
Dihydrogen hexafluorotitanate(2-) 17439-11-1		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
Dihydrogen hexafluorotitanate(2-) 17439-11-1			Skin designation:	Can be absorbed through the skin.	TRGS 900
Dihydrogen hexafluorotitanate(2-) 17439-11-1			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Hydrogen fluoride 7664-39-3 [HYDROGEN FLUORIDE]	1,8	1,5	Time Weighted Average (TWA):	Indicative	ECTLV
Hydrogen fluoride 7664-39-3 [HYDROGEN FLUORIDE]	3	2,5	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Hydrogen fluoride 7664-39-3			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
Hydrogen fluoride 7664-39-3			Skin designation:	Can be absorbed through the skin.	TRGS 900
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	
Sulfuric acid 7664-93-9	aqua (freshwater)		0,0025 mg/l				
Sulfuric acid 7664-93-9	aqua (marine water)		0 mg/l				
Sulfuric acid 7664-93-9	sediment (freshwater)				0,002 mg/kg		
Sulfuric acid 7664-93-9	sediment (marine water)				0,002 mg/kg		
Sulfuric acid 7664-93-9	sewage treatment plant (STP)		8,8 mg/l				
dihydrogen hexafluorotitanate(2-) 17439-11-1	aqua (freshwater)		0,89 mg/l				
dihydrogen hexafluorotitanate(2-) 17439-11-1	aqua (marine water)		0,89 mg/l				
dihydrogen hexafluorotitanate(2-) 17439-11-1	aqua (intermittent releases)		0,074 mg/l				
dihydrogen hexafluorotitanate(2-) 17439-11-1	sediment (freshwater)				16,69 mg/kg		
dihydrogen hexafluorotitanate(2-) 17439-11-1	Soil				13 mg/kg		
dihydrogen hexafluorotitanate(2-) 17439-11-1	sewage treatment plant (STP)		1,02 mg/l				
hydrogen fluoride 7664-39-3	aqua (freshwater)		0,9 mg/l				
hydrogen fluoride 7664-39-3	aqua (marine water)		0,9 mg/l				
hydrogen fluoride 7664-39-3	Soil				11 mg/kg		
hydrogen fluoride 7664-39-3	sewage treatment plant (STP)		51 mg/l				

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	
dihydrogen hexafluorotitanate(2-) 17439-11-1	Workers	inhalation	Long term exposure - systemic effects		3,6 mg/m ³	
dihydrogen hexafluorotitanate(2-) 17439-11-1	Workers	inhalation	Acute/short term exposure - systemic effects		3,6 mg/m ³	
dihydrogen hexafluorotitanate(2-) 17439-11-1	Workers	inhalation	Long term exposure - local effects		3,6 mg/m ³	
dihydrogen hexafluorotitanate(2-) 17439-11-1	Workers	dermal	Long term exposure - systemic effects		52 mg/kg	
dihydrogen hexafluorotitanate(2-) 17439-11-1	Workers	dermal	Acute/short term exposure - systemic effects		52 mg/kg	
hydrogen fluoride 7664-39-3	Workers	Inhalation	Acute/short term exposure - local effects		2,5 mg/m ³	
hydrogen fluoride 7664-39-3	Workers	Inhalation	Acute/short term exposure - systemic effects		2,5 mg/m ³	
hydrogen fluoride 7664-39-3	Workers	Inhalation	Long term exposure - local effects		1,5 µg/m ³	
hydrogen fluoride 7664-39-3	Workers	Inhalation	Long term exposure - systemic effects		1,5 mg/m ³	
hydrogen fluoride 7664-39-3	General population	Inhalation	Acute/short term exposure - systemic effects		0,03 mg/m ³	
hydrogen fluoride 7664-39-3	General population	oral	Acute/short term exposure - systemic effects		0,01 mg/kg	
hydrogen fluoride 7664-39-3	General population	Inhalation	Acute/short term exposure - local effects		1,25 mg/m ³	
hydrogen fluoride 7664-39-3	General population	Inhalation	Long term exposure - systemic effects		0,03 mg/m ³	
hydrogen fluoride 7664-39-3	General population	oral	Long term exposure - systemic effects		0,01 mg/kg	
hydrogen fluoride 7664-39-3	General population	inhalation	Long term exposure - local effects		0,2 mg/m ³	

Biological Exposure Indices:

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
Dihydrogen hexafluorotitanate(2-) 17439-11-1	Fluoride	Creatinine in urine	Sampling time: End of shift.	7,0 mg/g	DE BGW		
Dihydrogen hexafluorotitanate(2-) 17439-11-1 [INORGANIC FLUORINE COMPOUNDS(FLUORIDES)]	Fluoride	Creatinine in urine	Sampling time: Prior to shift.	4,0 mg/g	DE BGW		
Hydrogen fluoride 7664-39-3	Fluoride	Creatinine in urine	Sampling time: End of shift.	7,0 mg/g	DE BGW		
Hydrogen fluoride 7664-39-3 [HYDROGEN FLUORIDE]	Fluoride	Creatinine in urine	Sampling time: Prior to shift.	4,0 mg/g	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; ≥ 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; ≥ 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:

Wear protective clothing of hydrofluoric acid resistant material. Check the durability of the protective clothing with your supplier, likewise the guaranteed protection time. Protective clothing, which is not in accordance with the required protection, has to be immediately cleaned and changed after contamination with hydrofluoric acid containing products.

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****Appearance**

liquid
clear

Odor

colourless
odourless

Odour threshold

No data available / Not applicable

pH (20 °C (68 °F); Conc.: 1 % product; Solvent: Water)	1,65
pH (20 °C (68 °F); Conc.: 100 % product)	< 1
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	100 °C (212 °F)
Flash point	> 100 °C (> 212 °F)
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure	Values referring to water
Relative vapour density:	No data available / Not applicable
Density (20 °C (68 °F))	1,154 - 1,194 g/cm ³
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Miscible
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Oxidising properties	No data available / Not applicable

9.2. Other information

No data available / Not applicable

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

11.1. Information on toxicological effects

Acute oral toxicity:

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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)

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.

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
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
dihydrogen hexafluorotitanate(2-) 17439-11-1	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (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)
dihydrogen hexafluorotitanate(2-) 17439-11-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
dihydrogen hexafluorotitanate(2-) 17439-11-1	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
hydrofluoric acid 7664-39-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
dihydrogen hexafluorotitanate(2-) 17439-11-1	negative	oral: gavage		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
dihydrogen hexafluorotitanate(2-) 17439-11-1		oral: feed	95 w, males; 99 w, females continuous	rat	male/female	EPA OPP 83-5 (Combined Chronic Toxicity/ Carcinogenicity)

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
dihydrogen hexafluorotitanate(2-) 17439-11-1	NOAEL P 28,4 mg/kg NOAEL F1 28,4 mg/kg	three- generation study	oral: drinking water	rat	not specified

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/m3	inhalation: aerosol	28 d 6 h/d, 5 d/w	rat	OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)
dihydrogen hexafluorotitanate(2-) 17439-11-1	NOAEL ca. 25 ppm	oral: gavage	28 days once per day	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
hydrofluoric acid 7664-39-3	NOAEL 0,82 mg/m ³	inhalation: gas	6 h 5 days/week	rat	OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)

Aspiration hazard:

No data available.

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.

Inorganic product: Decomposition not affected.

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)
dihydrogen hexafluorotitanate(2-) 17439-11-1	LC50	172,4 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
dihydrogen hexafluorotitanate(2-) 17439-11-1	NOEC	4 mg/l	21 d	Oncorhynchus mykiss	OECD Guideline 210 (fish early life stage toxicity test)
hydrofluoric acid 7664-39-3	LC50	107,5 mg/l	96 h		OECD Guideline 203 (Fish, Acute Toxicity Test)

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)
dihydrogen hexafluorotitanate(2-) 17439-11-1	EC50	48,2 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
dihydrogen hexafluorotitanate(2-) 17439-11-1	NOEC	3,7 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

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)
dihydrogen hexafluorotitanate(2-) 17439-11-1	EC50	10,82 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
dihydrogen hexafluorotitanate(2-) 17439-11-1	EC10	1,31 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
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
dihydrogen hexafluorotitanate(2-) 17439-11-1	NOEC	231 mg/l	16 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
hydrofluoric acid 7664-39-3	EC10	231 mg/l	16 h		not specified

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
dihydrogen hexafluorotitanate(2-) 17439-11-1	53 - 58			not specified	other guideline:

12.4. Mobility in soil

No data available.

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.
dihydrogen hexafluorotitanate(2-) 17439-11-1	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. 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

ADR	2922
RID	2922
ADN	2922
IMDG	2922
IATA	2922

14.2. UN proper shipping name

ADR	CORROSIVE LIQUID, TOXIC, N.O.S. (Sulphuric acid, Hexafluoro titanic acid, Hydrofluoric acid)
RID	CORROSIVE LIQUID, TOXIC, N.O.S. (Sulphuric acid, Hexafluoro titanic acid, Hydrofluoric acid)
ADN	CORROSIVE LIQUID, TOXIC, N.O.S. (Sulphuric acid, Hexafluoro titanic acid, Hydrofluoric acid)
IMDG	CORROSIVE LIQUID, TOXIC, N.O.S. (Sulphuric acid, Hexafluoro titanic acid, Hydrofluoric acid)
IATA	Corrosive liquid, toxic, n.o.s. (Sulphuric acid, Hexafluoro titanic acid, Hydrofluoric acid)

14.3. Transport hazard class(es)

ADR	8 (6.1)
RID	8 (6.1)
ADN	8 (6.1)
IMDG	8 (6.1)
IATA	8 (6.1)

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
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RID	Tunnelcode: (E)
ADN	not applicable
IMDG	not applicable
IATA	IMDG-Code: Segregation group 1- Acids
	not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

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 1005/2009/EC):	Not applicable
Prior Informed Consent (PIC) (Regulation 649/2012/EC):	Not applicable
Persistent Organic Pollutants (POPs) (Regulation 2019/1021/EC) :	Not applicable

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC): Not applicable

VOC content (2010/75/EU)	0 %
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This product is regulated 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 not been carried out.

National regulations/information (Germany):

WGK:	WGK 2: significantly water endangering (Ordinance on facilities for handling substances that are hazardous to water (AwSV))
Storage class according to TRGS 510:	Classification according to AwSV, Annex 1 (5.2) 6.1D
General remarks (DE):	This product is in scope of the German regulation "ChemikalienVerbotsVerordnung"

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.
H301 Toxic if swallowed.
H310 Fatal in contact with skin.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H330 Fatal if inhaled.
H331 Toxic if inhaled.

Further information:

This Safety Data Sheet has been produced for sales from Henkel to parties purchasing from Henkel, is based on Regulation (EC) No 1907/2006 and provides information in accordance with applicable regulations of the European Union only. In that respect, no statement, warranty or representation of any kind is given as to compliance with any statutory laws or regulations of any other jurisdiction or territory other than the European Union. When exporting to territories other than the European Union, please consult with the respective Safety Data Sheet of the concerned territory to ensure compliance or liaise with Henkel's Product Safety and Regulatory Affairs Department (ua-productsafety.de@henkel.com) prior to export to other territories than the European Union.

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.

Dear Customer,

Henkel is committed to creating a sustainable future by promoting opportunities along the entire value chain. If you would like to contribute by switching from a paper to the electronic version of SDS, please contact the local Customer Service representative. We recommend to use a non-personal email address (e.g. SDS@your_company.com).

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.