SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Greinox S Pickling Spray Gel

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

1.1 Product identifier

Information on the product / trade name: **Greinox S Pickling Spray Gel**

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

for Surface treatment, only for industrial use

REACH Registration Number: not relevant (mixture)

1.3 Details of the supplier of the safety data sheet

Information on the manufacturer / supplier:

Kai Greising GmbH
Industriestraße 29/2
73340 Amstetten
Germany
phone: 0049-7331-3058-0
fax: 0049-7331-981722

1.4 Emergency telephone number

Name	Street	Postal code/ city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

Emergency information service Germany **+49-761-19240**

SECTION 2: Hazards identification:

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

CLP/GHS Classification (1272/2008):

Metal Corrosion Category 1 ; H290
Acute Toxicity Category 2 ; H310
Acute Toxicity Category 3, H301
Acute Toxicity Category 3, H331
Skin Corrosion Category 1, H314
Eye Damage Category 1, H318

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Contains: Nitric Acid, Hydrofluoric Acid

Signal word Danger

Hazard Phrases:

H290 May be corrosive to metals.
H301 + 331 Toxic if swallowed and if inhaled.
H310 Fatal in contact with skin
H314 Causes severe skin burns and eye damage.

Precautionary statements

Precautionary statements - prevention

P233 Keep container tightly closed.
P234 Keep only in original packaging.

P260 Do not breathe vapor, mists or spray.
P262 Do not get in eyes, on skin, or on clothing.
P280 Wear protective gloves, protective clothing, eye protection and face protection.
P284 In case of inadequate ventilation, wear respiratory protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with soap and water.
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.
P320 specific treatment is urgent
Special labeling of certain mixtures
EUH071 corrosive to the respiratory tract.

2.3 Other hazards
During the for Surface treatment electrolyte vapors may form

SECTION 3: Composition/information on ingredients

3.1 Substances
not relevant (mixture)

3.2 Mixture
Description of the mixture

Name of substanc	Identifier	wt%	Classification acc. To GHS	Pictograms	Specific Conc. Limits	Notes
Nitric acid	CAS No 7697-37-2 EC No 231-714-2 Index No 007-004-00-1 REACH Reg. No. 01-2119487297-23-xxxx	< 25	Ox. Liq. 3 / H272 Met. Corr. 1 / H290 Acute Tox 4 / H302 Acute Tox. 1 / H330 Skin Corr. 1A / H314 Eye Dam. 1 / H318 EUH071		Ox. Liq. 2;H272:C ≥99% Ox. Liq. 3; H272: 70% ≤ C < 99 % Skin Corr. 1A; H314: C ≥ 20 % Skin Corr. 1B; H314: 5 % ≤ C < 20 % Skin Irrit. 2; H315: 1 % ≤ C < 5 % Eye Dam. 1; H318: C ≥ 3 % Eye Irrit. 2; H319: 1 % ≤ C < 3 %	B(a) GHS-HC IOELV
Hydrogen-fluoride	CAS No 7664-39-3 EC No 231-634-8 Index No 009-002-00-6 REACH Reg. No 01-2119458860-33-xxxx	<7	Acute Tox. 1/H310 Acute Tox. 2/H300 Acute Tox. 2/H330 Skin Corr. 1A/H314		Skin Corr. 1A; H314: C ≥ 7 % Skin Corr. 1B; H314: 1 % ≤ C < 7 % Eye Dam. 1; H318: C ≥ 1 % Eye Irrit. 2; H319: 0,1 % ≤ C < 1 %	

Notes
B(a): The classification refers to an aqueous solution
GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)
IOELV: Substance with a community indicative occupational exposure limit value

Name of substanc	Identifikator	Specific Conc. Limits	M-Faktors	ATE	Exposure route
Hydrogen-fluoride	CAS-No. 7664-39-3 EG-No. 231-634-8	Skin Corr. 1A; H314: C ≥ 7 % Skin Corr. 1B; H314: 1 % ≤ C < 7 % Eye Dam. 1; H318: C ≥ 1 % Eye Irrit. 2; H319: 0,1 % ≤ C < 1 %	-	5 mg/kg 0,5 mg/l 0,05 mg/l	Oral / dermal inhalation: vapour mist
Nitric acid	CAS No. 7697-37-2 EC No. 231-714-2	Ox. Liq. 3; H272: C ≥ 65 % Skin Corr. 1A; H314: C ≥ 20 % Skin Corr. 1B; H314: 5 % ≤ C < 20	-	LC50: 2,6 mg/l 0,005 mg/l LD50: 2740 mg/kg LD50: 1530 mg/kg	inhalation: vapour mist dermal oral

Remarks
For full text of Hazard- and EU Hazard-statements: see SECTION 16.
PBT/vPvB: Not applicable for inorganic substances

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes
Take off immediately all contaminated clothing.
First aiders: pay attention to self-protection! Remove the affected persons from the danger area and lay them down. Avoid splashing. Avoid direct contact with eyes, skin or clothing. Wear thick protective clothing. Remove contaminated clothing immediately. Call in a doctor immediately. Move those affected out of the danger area. Pay attention to protecting first responders. In case of unconsciousness place and transport in stable sideways position. Even if poisoning is suspected, a medical assessment is required. Symptoms of poisoning can only appear many hours later, so medical observation should be carried out for at least 48 hours after the accident.

Following inhalation
If breathing difficulties or respiratory arrest occur, initiate artificial respiration. No mouth-to-mouth or mouth-to-nose ventilation. Use resuscitator or respirator. Call in a doctor immediately. If you inhale vapors or spray mist, seek medical advice immediately. Take the affected person into fresh air. After inhalation, take calcium tablets as if in contact with skin. If you have difficulty breathing, have your body inhale oxygen and keep your body calm.

Following skin contact
Get medical attention immediately. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cold water may be used. Material is absorbed through the skin. While waiting for medical attention, it has been shown that flushing the affected area with water for one minute and then massaging HF Antidote Gel into the wound until there is a cessation of pain is a most effective first aid treatment. HF Antidote Gel contains Calcium Gluconate which combines with HF for insoluble Calcium Fluoride, thus preventing the extraction of calcium from the body tissue and bones. Another alternative first aid treatment, after thorough washing of the burned area, is to immerse the burned area in a solution of 0.2% iced aqueous Hyamine 1622 or 0.13% iced aqueous Zephiran Chloride. If immersion is impractical, towels could be soaked with one of the above solutions and used as compresses for the burn area. Hyamine 1622 is a trade name for Tetracaine Benzethonium Chloride. Zephiran is a trade name for Benzalkonium Chloride. In case of over-sized skin burns (approx. 150 cm^2), additionally let 6 calcium effervescent tablets (400 mg calcium per tablet) be dissolved in water.
This is to be repeated every 2 hours until reaching the hospital.

Following eye contact
In case of eye contact, rinse with plenty of water for at least 15 minutes and seek medical attention immediately. Cold water may be used. Keep the eyelids apart and away from the eyeballs during irrigation. Do not use oily drops or ointment or HF skin burn treatments on the eyes. Get medical attention immediately, preferably an eye specialist. Place ice pack on eyes until reaching emergency room.

Following ingestion
Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe irritation and burns to eyes and skin. Skin damage can occur without noticeable pain. Can be absorbed through the skin in fatal amounts. Inhalation may cause severe

respiratory irritation or burns with coughing or labored breathing. May cause lung damage. May be toxic if swallowed. May cause severe burn to the mouth, throat or stomach. Symptoms may be delayed.

4.3 Indication of any immediate medical attention and special treatment needed

Medical treatment is required for all incidents of contact or exposure.
Contact your Poison Center for the latest advice on treatment. For eye contact: Carefully evaluate for eye damage, exposure to dilute solutions may result in delayed symptoms of ocular damage. For skin contact: Decontamination of the contact area is of primary importance. Symptoms may be delayed for several hours. Specific treatment is controversial with no single treatment clearly superior. Hexafluorine®, topical calcium gluconate gel or magnesium oxide paste have been successful. Hexafluorine® applied immediately to the skin may remove excess chemical from the surface of the tissue before it has a chance to penetrate. Calcium gluconate infiltration may be considered in some cases. Systemic absorption may occur and may require treatment with parenteral calcium salts. For ingestion: Administer fluoride binding substance. Consider nasogastric or soft orogastric suction and lavage with 10% calcium gluconate if the ingestion is recent and spontaneous emesis has not occurred. Monitor and treat hypocalcemia and hypomagnesemia, parenterally as needed. Observe and evaluate patient for oral and GI burns. For inhalation: Monitor for respiratory distress. Respiratory symptoms may be delayed up to 24 hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Coordinate fire-fighting measures to the fire surroundings water spray, foam, dry extinguishing powder, carbon dioxide (CO_2)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Not combustible.

Hazardous combustion products

In case of fire may be liberated: nitrogen oxides (NOx), May produce toxic fumes of carbon monoxide and hydrogen fluoride if burning.

5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing. Contact with alkalies and metals may evolve flammable hydrogen gas.

Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

Wash thoroughly after handling.
Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions
Avoid release into the environment. Report spill as required by local and national regulations.

6.3 Methods and materials for containment and cleaning up
Evacuate spill area. Wear appropriate protective clothing and equipment to prevent contact. Dike spill with an absorbent materials and prevent spill from entering sewers and waterways. Collect into appropriate containers for disposal. Wash spill area with water.

Advices on how to clean up a spill
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases
Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections
Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Prevent eye and skin contact. Do not breathe vapors or mists. Do not eat, drink or smoke when using this product. Use only with adequate ventilation and appropriate protective clothing. Immediately remove contaminated clothing and other items for disposal. Wash thoroughly after handling. This product can cause severe burns, tissue damage and absorption of potentially fatal amounts without pain. Immediately decontaminate all contact areas and get medical attention. Empty containers retain product residues. Follow all SDS precautions in handling empty containers.

7.2 Conditions for safe storage, including any incompatibilities
Protect containers from physical damage. Store in a cool, well-ventilated area away from alkalies and acids. Do not store in metal containers. Keep in original containers.

Consideration of other advice
• Ventilation requirements
Use local and general ventilation.
• Specific designs for storage rooms or vessels
Recommended storage temperature: 15 – 25 °C.

7.3 Specific end use(s)
Industrial uses: Surface Treatment for Welded Surfaces for Stainless Steel and Nickel Alloys
Professional uses: Surface Treatment for Welded Surfaces for Stainless Steel and Nickel Alloys

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values
Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Notation	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Source
EU	nitric acid	7697-37-2		IOELV		2.6	1		2006/15/EC
GB	nitric acid	7697-37-2		WEL		2.6	1		EH40/2005
EU	Hydrofluoric acid	7664-39-3			1	0,83	3	2,5	2000/39/EC
GB	Hydrofluoric acid	7664-39-3	F		1	0,83	3	2,5	EH40/2005

Notation
STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period
TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average

IOELV Indicative Occupational Exposure Limit Values – An exposure limit established by the European Union under Article 3 of the Chemical Agents Directive (98/24/EC). Member states are required to consider IOELVs when establishing national occupational exposure limits.

Relevant DNELs/DMELs/PNECs and other threshold levels

• relevant DNELs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Nitric acid	7697-37-2	DNEL	1,3 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
Nitric acid	7697-37-2	DNEL	1,3 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Nitric acid	7697-37-2	DNEL	2,6 mg/m³	human, inhalatory	worker (industry)	acute - local effects

Relevant DNELs of components

Name of sub-stance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Hydrofluoric acid	7664-39-3	DNEL	1,5 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Hydrofluoric acid	7664-39-3	DNEL	2,5 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
Hydrofluoric acid	7664-39-3	DNEL	1,5 µg/m³	human, inhalatory	worker (industry)	chronic - local effects
Hydrofluoric acid	7664-39-3	DNEL	2,5 mg/m³	human, inhalatory	worker (industry)	acute - local effects

Relevant PNECs of components

Name of sub-stance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Hydrofluoric acid	7664-39-3	PNEC	0,9 mg/l	aquatic organisms	freshwater	short-term (single instance)
Hydrofluoric acid	7664-39-3	PNEC	0,9 mg/l	aquatic organisms	marine water	short-term (single instance)
Hydrofluoric acid	7664-39-3	PNEC	51 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Hydrofluoric acid	7664-39-3	PNEC	11 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Recommended Monitoring Procedures: Collect on silica gel tubes and analyze by IC. Refer to professional industrial or occupational hygienist for sampling and analytical methods. Certain regulations require periodic monitoring.

Appropriate Engineering Controls: Use with adequate general or local exhaust ventilation to minimize exposure levels. Refer to ANSI Z49.1 and other applicable regulations for additional information

Individual protection measures (personal protective equipment)

Eye/face protection

Use safety goggle with side protection. Wear face protection.

Skin protection

• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the

supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent con- tact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

- **type of material**

Chloropren

- **material thickness**

1,2 mm

- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection

If exposures limits are exceeded, wear an approved full facepiece particulate respirator, supplied air respirator (with escape bottle if required) or self-contained breathing apparatus may be required. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with applicable regulations and good Industrial Hygiene practice.
Respiratory protection necessary at: Aerosol or mist formation. Type: NO-P3 (against nitrous gases and particles, colour code: Blue/White).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Form	gel like fluid
Colour	colorless
Odour	characteristic (pungent)
Odour Threshold	0,036 ppm Hydrofluric acid)

Other physical and chemical parameters

pH	~1,2
Melting point	0°C at 1.013 hPa
Boiling point	~110°C
Flash point	not determined
Evaporation rate	No information available.
Flammability (solid, gas)	not relevant (fluid)
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	~ 1,3 g/cm³
Relative density	No information available.
Water solubility	soluble in any proportion
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.

Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

Corrosion	May be corrosive to metals.

SECTION 10: Stability and reactivity

10.1 Reactivity

Contact with light-metals liberates hydrogen

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Reacts with metals to form flammable hydrogen gas. Reacts with bases to produce heat.

10.4 Conditions to avoid

Heating > 35°C, or direct sunlight, frost

10.5 Incompatible materials

Aluminium, iron/iron-containing compounds, Mild steel, bases, metals, glass

10.6 Hazardous decomposition products

Decomposition may produce hydrogen fluoride and oxides of carbon and nitrogen.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.
Chronic Toxicity: Prolonged or repeated exposure to fluorides may cause mottling of teeth, damage to bones and fluorosis with symptoms including brittle bones, weight loss, anemia, calcified ligaments and joint stiffness.,
Acute toxicity:
Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled.

Acute toxicity estimate (ATE) of components				
Name of substance	**CAS No**	**Exposure route**	**ATE**	**Species**
Hydrofluoric acid	7664-39-3	oral	ATE 5 mg/kg	
Hydrofluoric acid	7664-39-3	dermal	ATE 5 mg/kg	
Hydrofluoric acid	7664-39-3	inhalation: vapour	ATE 0,5 mg/l	
Hydrofluoric acid	7664-39-3	inhalation: mist	ATE 0,05 mg/l	
Nitric Acid	7697-37-2	oral	LD50:1530 mg/kg	rat
Nitric Acid	7697-37-2	dermal	LD50:2740 mg/kg	rat
Nitric Acid	7697-37-2	inhalation: (4h) vapour	LC50 2,6 mg/l	rat
Nitric Acid	7697-37-2	inhalation: mist	ATE 0,5 mg/l	

Skin corrosion/irritation: Nitric acid and hydrofluoric acid are corrosive to rabbit skin. This product is corrosive to the skin.
Eye damage/ irritation: Nitric acid and hydrofluoric acid are corrosive to rabbit eyes. This product is corrosive to the eyes.
Respiratory Irritation: No data available. This product is expected to cause respiratory irritation or corrosion to the lungs.
Respiratory Sensitization: None of the components are respiratory sensitizers.
Skin Sensitization: None of the components have been shown to cause skin sensitization in animals or humans.
Germ Cell Mutagenicity: None of the components have been shown to cause mutagenic activity.

Carcinogenicity: None of the components are listed as a carcinogen or suspected carcinogen by EU CLP.
Reproductive Toxicity: None of the components have been shown to cause reproductive or developmental toxicity.
Specific Target Organ Toxicity:
Single Exposure: Shall not be classified as a specific target organ toxicant (single exposure).
Repeat Exposure: Shall not be classified as a specific target organ toxicant (repeated exposure).
Aspiration hazard
No data available

• If swallowed
Corrosive to the mucous membranes of the mouth, throat and stomach. May cause fluoride poisoning with symptoms including weakness, tremors, shallow breathing, spasms of the hands and feet, convulsions and coma. May cause central nervous system, kidney and cardiovascular (heart rhythm) effects. Respiratory paralysis may cause death.
• If in eyes
Causes severe irritation or burns with redness, tearing and pain. Permanent damage including blindness may occur.
• If inhaled
Mist and vapors may cause burns to the respiratory with coughing and labored breathing. May cause fluoride poisoning with effects similar to those listed under “ingestion”. Symptoms may be delayed. Harmful if inhaled. Medical treatment is required for all incidents of contact or exposure.
• If on skin
Contact may cause severe irritation or burns to the skin. Burns may not be immediately painful or visible. Diluted solutions can also produce severe burns, but without causing immediate pain. Sometimes pain may be felt several hours later when hydrofluoric acid has penetrated into underlying tissues. May be fatal absorbed through the skin with symptoms similar to those listed under ingestion.

11.1 Endocrine disrupting properties
Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0,1%.

11.3 Further information
There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity
Shall not be classified as hazardous to the aquatic environment.

Ingredient Aquatic Toxicity Values
Nitric Acid: 96 hr LC50 chinook 4,400 mg/L, 48 hr EC50 Ceriodaphnia dubia 4.4 mg/L
Hydrofluoric Acid: 96 hr LC50 fish 51 mg/L, 48 hr EC50 daphnia magna 97 mg/L
During use, the pickling paste will absorbed oxidized metals and contaminents from the welding process which may include Chromium VI, nickel, manganese and other toxic metals. It is the responsibility of the user to determine the chemical content of the waste generated and to ensure proper disposal in accordance with all local and national regulations.

12.2 Process of degradability
The methods for determining the biological degradability are not applicable to inorganic substances

12.3 Bioaccumulative potential
The fluorides from this product is expected to accumulate predominately in the exoskeleton of crustacea and in the skeleton of fish. Test show there was no accumulation in the edible tissues.

12.4 Mobility in soil
Data are not available

12.5 Results of PBT and vPvB assessment
Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.

12.1 Endocrine disrupting properties
Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0,1%.

12.7 Other adverse effects
Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information
Do not empty into drains.

Waste treatment of containers/packaging
It is a dangerous waste; only packaging which are approved (e.g. acc. to ADR) may be used.

Sewage disposal-relevant information
Do not empty into drains.

13.2 Relevant provisions relating to waste
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.
Properties of waste which render it hazardous
HP 4 irritant - skin irritation and eye damage
HP 6 acute toxicity
HP 8 corrosive

13.3 Remarks
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions

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SECTION 14: Transport information

14.1	UN number	**2922**
14.2	UN proper shipping name	Corrosive liquid, toxic, n.o.s.
	Hazardous ingredients	(nitric acid, hydrofluoric acid,)
14.3	Transport hazard class(es)	

	Class	8 + 6.1
14.4	Packing group	II
14.5	Environmental hazards	none (non-environmentally hazardous acc. to the dangerous goods regulations)

14.6 Special precautions for user
Attention: Toxic, strongly corrosive

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code
Not applicable – product is transported only in packaged form.

14.8 Information for each of the UN Model Regulations

• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number	2922
Proper shipping name	Corrosive liquid, toxic, n.o.s.
Particulars in the transport document	UN2922, (hydrofluoric acid, nitric acid) 8 + 6.1, II, (E)
Class	8
Classification code	CT1
Special provisions	274
Packing group	II
Danger label(s)	8 + 6.1

Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	86
Emergency Action Code	**2X**

• Transport of dangerous goods by air transport ICAO-TI und IATA-DGR:

UN number	2922
Proper shipping name	Corrosive liquid, toxic, n.o.s
Particulars in the transport document	UN2922, (hydrofluoric acid, nitric acid) 8 + 6.1, II, (E)
Class	8
Packing group	II
Danger label(s)	8 + 6.1

Special provisions	A3 A803
Limited quantities (LQ)	0,5 L
Passenger LQ:	Y840
Excepted quantities (EQ)	E2
IATA-packing instructions - Passenger:	851
IATA- maximum quantities (LQ)- Passenger:	1 L
IATA-packing instructions - Cargo:	855
IATA- maximum quantities - Cargo:	30 L

• International Maritime Dangerous Goods Code (IMDG)

UN number	2922
Proper shipping name	Corrosive liquid, toxic, n.o.s
Particulars in the shipper's declaration	UN2922, (hydrofluoric acid, nitric acid) 8 + 6.1, II, (E)
Class	8
Marine pollutant	-
Packing group	II
Danger label(s)	8 + 6.1

Special provisions (SP)	274
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-A, S-B
Stowage category	D
Segregation group	1 - Acids

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Seveso Directive

2012/18/EU (Seveso III)

No	Dangerous substance/ hazard categories	Qualifying quantity (tonnes) for the application of lower and uppertier requirements		Notes
H2	acute toxic (cat. 2)	50	200	all routes of exposure

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

Water Framework Directive (WFD)

none of the ingredients are listed

Regulation on the marketing and use of explosives precursors

Explosives precursors which are subject to restrictions

Name of substance	CAS No	Wt%	Type of registration	Remarks	Limit value	Upper limit value
						for the purpose of licensing under Article 5(3)
Nitric acid [C ≤ 70 %]	7697-37-2	10-25	Annex I		3 % w/w	10 % w/w

Legend

Annex I Substances which shall not be made available to members of the general public on their own, or in mixtures or substances including them, except if the concentration is equal to or lower than the limit values set out below

Regulation on drug precursors

none of the ingredients are listed

Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

Water hazard class: 2 - hazardous for water

Additional statements

If the product is passed on to third parties, in accordance with Article 7 "Notification of the supply chain" of Regulation EU 2019/1148, the information obligation is subject to the entire supply chain and all other provisions mentioned in Article 7 on restricted and regulated raw materials.

National regulations (GB)

Employment restrictions: Observe employment restrictions for young people Observe employment restrictions for expectant and nursing mothers.

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list
none of the ingredients are listed
Restrictions according to GB REACH, Annex 17
Entry 3: nitric acid; Hydrofluoric acid, Entry 75
Status: Mixing rule according to VwVwS Annex 4, No. 3
Skin resorption /Sensitization: Easily penetrates the outer skin and causes poisoning.
Storage class 6.1B

- **Limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products (2004/42/EC, Deco-Paint Directive)**

VOC content 0 %

- **Directive on industrial emissions (VOCs, 2010/75/EU)**

VOC content 0 %

National inventories

Country	Inventory	Status
AU	AIIC	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2017/2398/EU	Directive of the European Parliament and of the Council amending Directive 2004/37/EC on the protection of workers from the risks related
2000/39/EC	Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)

Abbr.	Descriptions of used abbreviations
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
COD	Chemical oxygen demand
DGR	DGR Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits, Table 1: List of approved workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Eye Dam.	seriously damaging to the eye
Eye Irrit.	irritant to the eye
GB CLP	The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	indicative occupational exposure limit value
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant)
Met. Corr.	corrosive to metals
NLP	No-Longer Polymer
Ox. Liq.	oxidising liquid
ppm	parts per million
PBT	Persistent, Bioaccumulative and Toxic

Abbr.	Descriptions of used abbreviations
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	corrosive to skin
Skin Irrit.	irritant to skin
STEL	short-term exposure limit
TWA	time-weighted average
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative
WEL	workplace exposure limit

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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

Code	Text
H272	may intensify fire; oxidiser
H290	may be corrosive to metals
H300	Fatal if swallowed.
H301	Toxic if swallowed
H310	Fatal in contact with skin
H331	Toxic if inhaled
H314	causes severe skin burns and eye damage
H318	causes serious eye damage
H330	Fatal if inhaled
EU071	corrosive to the respiratory tract

Training advice

Provide adequate information, instruction and training for operators.

Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. It does not represent a guarantee of any properties of the product.