

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

1.1 Product identifier

TACAB Pickling bath concentrated, UFI-Code: 2DS2-H096-C00X-2YHR

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

Relevant identified uses: Pickling of stainless steel and Ni-based alloys.
Uses advised against: Pickling of all other metals.

1.3 Details of the supplier of the safety data sheet

TA Chemistry AB

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1.4 Emergency telephone number

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]¹⁾

Acute Tox. 3; H301: Toxic if swallowed.
Acute Tox. 2; H310: Fatal in contact with skin.
Acute Tox. 3; H331: Toxic if inhaled.
Skin Corr. 1A; H314: Causes severe skin burns and eye damage.
Eye Dam. 1; H318: Causes serious eye damage.
Met. Corr. 1; H290: May be corrosive to metals.
EUH071: Corrosive to the respiratory tract.

¹⁾ For an explanation of abbreviations/codes for classification in plain language, see Section 16.

2.2 Label elements

Hazard pictograms



Signal word:

DANGER

Hazard statements:

H301 *Toxic if swallowed.*
H310 *Fatal in contact with skin.*
H331 *Toxic if inhaled.*
H314 *Causes severe skin burns and eye damage.*
H290 *May be corrosive to metals.*

Supplementary hazard statements:

EUH071 *Corrosive to the respiratory tract.*

Precautionary statements:

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 In case of inadequate ventilation wear respiratory protection.
P301+P330+P331+P310 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.
P303+P361+P353+310 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin. Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
P321 *Specific treatment: (If available use Hexafluorine®, use it instead of water at skin or eye contact. Follow the instructions included with Hexafluorine®.)*
Contents: 35-40% nitric acid, 8-11% hydrofluoric acid

2.3 Other hazards

Contact with certain metals (eg aluminum, zinc) can form explosive gas mixtures with air. May cause lowering of pH in watercourses and may thus be dangerous to aquatic organisms.
The mixture does not meet the criteria for persistent, bioaccumulative and toxic substances (PBT) or very persistent and very bioaccumulative substances (vPvB).

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Namn:	Identification EG-nr:	Content %:	Classification (CLP) ¹⁾	Classification (CLP) ¹⁾ :
Nitric acid...% [C ≤ 70 %]	CAS-nr 7697-37-2 EG-nr 231-714-2 REACH reg.nr. 01-2119487297-23	35-40	Ox. Liq. 3; H272 Acute Tox. 3; H331 Skin Corr. 1A; H314 Eye Dam. 1; H318 Met Corr. 1; H290 EUH071	Ox. Liq. 3; H272: C ≥ 65 % Inhalation: ATE = 2.65 mg/L (vapour) Skin Corr. 1A; H314: C ≥ 20 % Skin Corr. 1B; H314: 5 % ≤ C < 20 %
Hydrofluoric acid...%	CAS-nr 7664-39-3 EG-nr 231-634-8 REACH reg.nr. 01-2119458860-33	8-11	Acute Tox. 2; H330 Acute Tox. 1; H310 Acute Tox. 2; H300 Skin Corr. 1A; H314	Skin Corr. 1A; H314: C ≥ 7% Skin Corr. 1B; H314: 1% ≤ C < 7% Eye Irrit. 2; H319: 0,1% ≤ C < 1%

¹⁾ For an explanation of codes for classification, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation	Rinse nose and mouth with water. Supply fresh air and keep victim warm and calm. Give artificial respiration or oxygen if victim is breathing irregularly or breathing has stopped. Obtain medical assistance immediately.
Skin contact	Remove urgently contaminated clothing and shoes. Rinse immediately with Hexafluorine® on the affected area. Avoid rinsing with water first, as it reduces the effect of the solution. For prolonged or greater exposure then use 2,5% Calcium Gluconate gel on the affected area. Obtain medical assistance immediately ...If not hexafluorine and Calcium Gluconate gel are available: Rinse skin with plenty of water. Obtain medical assistance immediately.
Eye contact	Rinse immediately with Hexafluorine®. Always use the entire contents of the package (500 ml). Avoid rinsing with water first, as it reduces the effect of Hexafluorine®. Always follow the instructions that come with the product. Obtain medical assistance immediately (eye doctor). ...If not Hexafluorine is available rinse open eyes in running water for at least 15-30 minutes. Keep eyelids open. Remove any contact lenses. Obtain medical assistance immediately. Continue to rinse the eyes under transport to eye doctor.
Ingestion	Rinse mouth with water. Drink immediately a glass of milk or water. Do not induce vomiting. Let the injured rest. Obtain medical assistance immediately (show the label where possible or this information).

4.2 Most important symptoms and effects, both acute and delayed

EYE CONTACT: Splashes cause intensive pain and a strong corrosive effect. Risk of irreparable damage to the eyes.
SKIN CONTACT: Causes corrosive damages with intensive pain with blisters and slow-healing wounds. Even dilute solutions can cause severe burns, but does not always provide immediate pain. Sometimes the pain occurs only after several hours when hydrofluoric acid penetrates into the underlying tissues.
INHALATION: Corrosive to mouth, esophagus and throat. Pulmonary oedema can arise several hours up to several days without inconvenience.
INGESTION: Gives severe burns in mouth, esophagus and throat. Corrosion damage can occur even with small amounts of the product.

4.3 Indication of any immediate medical attention and special treatment needed

Calcium gluconate gel 2.5 % precipitates fluoride and must be massaged into the skin areas that have been in contact with the product as soon as possible. At high exposures, additional calcium may need to be given, both locally and systemically. If splashes to the eyes occur, calcium gluconate solution can also be dropped into the eye. Consider the risk of secondary renal failure after ingestion.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Foam, carbon dioxide, powder or sand. Use any media appropriate depending on the environment. The product is non-flammable.

5.2 Special hazards arising from the substance or mixture

Contact with certain metals (eg aluminum, zinc) can form explosive gas mixtures with air. In the event of fire or heating, a pressure increase occurs whereby the container can burst. May decompose in case of fire to form toxic gases (see section 10.6). Avoid inhaling fumes or fumes from burning material. When inhaling decomposition products in connection with fire, symptoms may be delayed. Reacts violently with water to form a toxic corrosive foam.

5.3 Advice for firefighters

Fire-fighting equipment and fresh air equipment must be used when firefighting. Evacuate the immediate area. Cool fire-exposed surfaces with water. Remove other combustible material. Extinguish only minor fires on your own. Prevent extinguishing water from reaching water or drains. Take measures to dispose of extinguishing water.

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

Wear suitable protective gloves, eye protection and protective clothing. Keep good ventilation or use breathing apparatus. Block of the danger zone if possible.

6.2 Environmental precautions

Prevent spillage from entering sewage, ditches or public waters.

6.3 Methods and material for containment and cleaning up

Neutralize with slaked lime. Small spills can be neutralized with TACAB Neutralisation paste. Embank with inert material, e.g. sand. Spillage should be picked up and disposed in full compliance with local regulations as hazardous waste. Rinse area with plenty of water. Prevent incompatible substances (see Section 10) from coming into contact with the product. For larger spills/releases notify the Emergency Services.

6.4 Reference to other sections

See section 1 for Emergency telephone number, section 8 for personal protection and section 13 for waste treatment methods.

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

Handle the product with care and avoid contamination. The product is to be used at temperatures between +5°C and +40°C. When pickling this requires very good ventilation or local extraction. Wear personal protective equipment (see Section 8). Avoid direct contact with, or inhalation of the product. Do not eat, drink or smoke when using this product. An eyewash station and emergency shower must be made available. Calcium gluconate gel 2.5 % or Hexafluorine ® should be available at the workplace. Pickling products should only be handled by staff with basic training/knowledge in the relevant health risks.

7.2 Conditions for safe storage, including any incompatibilities

Keep packages securely closed in a well-ventilated area. Store packages indoor at room temperature in upright position and away from incompatible materials, see section No. 10. Storage should be in a restricted area, with no access for unauthorized persons. The shelf life of an un-opened package is 3 years

7.3 Specific end use(s)

Not applicable.

SECTION 8: Exposure controls/personal protection

Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits (Source: GESTIS International limit values database)

Substance:	Country	Limit value (8 hours) mg/m ³	Limit value short term mg/m ³	Remarks
Nitric acid	Austria		2,6	
	Belgium		2,6	15 minutes average value
	Denmark	5,2	10*	*) 15 minutes average value
	European Union		2,6	15 minutes average value
	Finland	1,3	2,6*	*) 15 minutes average value
	France		2,6	
	Germany		2,6	15 minutes average value
	Hungary		2,6	
	Italy		2,6	15 minutes average value
	Latvia	2	2,6*	*) 15 minutes average value
	Norway	5		
	Poland	1,4	2,6	
	Romania		2,6	15 minutes average value
	Spain		2,6	
	Sweden	1,3	2,6*	*) 15 minutes average value
	Switzerland	5	5	
Netherlands		1,3		
United Kingdom		2,6		
Substance:	Country	Limit value (8 hours) mg/m ³	Limit value short term mg/m ³	Remarks
Hydrofluoric acid	European Union	1,5	2,5*	*) 15 minutes average value
	Finland	1,5	2,5*	*) 15 minutes average value
	Romania	1,5	2,5*	*) 15 minutes average value
	Sweden	1,5	1,7*	*) 15 minutes average value

8.2 Exposure controls

Appropriate engineering controls

Keep exposure at a low level through good ventilation and appropriate handling regulations. Mechanical ventilation or local extraction should be used. Eyewash and quick-drench shower facilities must be available at the premises. 2,5% Calcium Gluconate gel or Hexafluorine® should be available in the working place. Wash your hands and face before all meals and after work.

Individual protection measures, such as personal protective equipment:

Eye protection / Face protection

Use eye and skin protection.

Hand protection

Use protective gloves (EN 374).

Gloves must be inspected prior to use.

Use a suitable glove removal technique (without touching the outer surface of the glove) to avoid skin contact with this product.

Immediately replace punctured or contaminated protective gloves.

Recommended glove material: Neoprene - CR: thickness ≥ 0.5mm; breakthrough time ≥ 480 minutes

Skin protection

Suitable protective clothing (long sleeves and legs), rubber boots made of acid-resistant material.

The trouser legs should be on the outside of the boots.

Respiratory protection

Use breathing apparatus with a gas filter type ABE and a dust filter type P3

Environmental protection measures

Prevent spillage from entering sewage or public waters.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Highly viscous, gel-like fluid, colourless	Vapour pressure	Not determined
Odour:	Pungent	Vapour density	Not determined
Odour threshold:	Not determined	Relative density:	1,27 g/cm ³ (vid 20 °C)
pH-value:	<1(10 g/l)	Solubility:	Fully soluble and miscible
Melting / freezing point:	Not determined	Partition coefficient (n-octanol/water):	Not applicable
Boiling point	80-100 °C	Self ignition temperature:	Not self-igniting
Flash-point:	Not relevant	Decomposition temperature:	Not determined
Evaporation rate:	Not determined	Viscosity:	Not determined
Flammability:	Nonflammable	Explosive properties:	non explosive
Upper/lower flammability or explosive limits:	Not relevant	Oxidizing properties:	not oxidizing

9.2 Other information

Information on hazard classes for physical danger	May be corrosive to metals
Other safety characteristics	no known

SECTION 10: Stability and reactivity

10.1 Reactivity

The mixture consists of strong acids that may be reactive with certain substances.

10.2 Chemical stability

Stable under normal conditions. (see section 7).

10.3 Possibility of hazardous reactions

Reacts violently with various forms of lye.
Contact with metals (see 10.5) will form hydrogen gas, which together with air can give an explosion.
Hydrogen formation in unventilated spaces poses a danger of explosion.

10.4 Conditions to avoid

Heating and direct sunlight.

10.5 Incompatible materials

Bases, metals (aluminium, zinc, iron, magnesium)

10.6 Hazardous decomposition products

The product contains nitric acid which releases nitrous gases when burned.
In case of fire or strong heating, toxic gas (hydrogen fluoride) is formed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Route of exposure	Effects
Eye Contact	Gives intensive pain and a strong corrosive effect. High risk of permanent visual impairment or blindness.
Skin contact:	Gives corrosive damages with intensive pain with blisters and slow-healing wounds. Diluted solutions can also produce severe burns. Causes severe burns and burns that do not need to be immediately painful or visible. The full size of the tissue damage need not appear until 12-24 hours after exposure. The hydrofluoric acid penetrates into the underlying tissues. The fluoride ion causes both local cell death and systemic toxicity due to hypocalcaemia (calcium deficiency).

Inhalation:	Inhalation of fumes or mist is corrosive to mouth, esophagus and throat. Effusion in the lungs (pulmonary edema) may occur after several hours or up to a few days without any problems. Prolonged and repeated contact with vapours may cause chronic bronchitis and erosion of the teeth.
Ingestion:	Gives corrosive damage with burning pain in mouth, esophagus and throat. Even small quantities can cause corrosion injuries. High risk of permanent inconvenience from scar healing caused by corrosion damage in throat or stomach.

Acute toxicity:	Toxic if swallowed. Fatal in skin contact. Toxic by inhalation. Nitric acid: LC50 inhalation rat, 4h: 2,65 mg/l Hydrofluoric acid: LC50 inhalation rat, 1h: 1310 ppm
Corrosive/Irritating:	Corrosive category 1A. Causes severe skin burns and eye damage.
Serious eye damage/irritation:	Category 1. Causes serious eye damage.
Respiratory or skin sensitization:	Based on available data the classification criteria have not been fulfilled.
Germ cell mutagenicity:	Based on available data the classification criteria have not been fulfilled.
Carcinogenicity	Based on available data the classification criteria have not been fulfilled.
Reproductive toxicity:	Based on available data the classification criteria have not been fulfilled.
STOT-single exposure:	Based on available data the classification criteria have not been fulfilled..
STOT-repeated exposure:	Based on available data the classification criteria have not been fulfilled.
Aspiration hazard:	Based on available data the classification criteria have not been fulfilled..
Other information:	Hydrofluoric acid: Fluoride ion can lower serum calcium levels, which is likely to cause fatal hypocalcaemia. The substance can cause severe burns and stinging that does not have to be immediately painful or visible. The full size of the tissue damage need not appear until 12-24 hours after exposure. The substance is extremely harmful to tissues and mucous membranes and upper respiratory tract, eyes and skin.

11.2 Information on other hazards

No other hazards known.

SECTION 12: Ecological information

12.1 Toxicity

The acute effects of the product are largely a consequence of a lowered pH value and the resulting burns.

Toxicological data for the substances in the mixture:

Nitric acid: LC50, fish, 96h: 72 mg/l (Gambusia affinis)
Hydrofluoric acid: LC50, fish, 96h: 51 mg/l (Oncorhynchus mykiss), EC50, daphnia, 48h: 97 mg/l,
EC50, algae, 96h: 43 mg/l (Scenedesmus subspicatus)

12.2 Persistence and degradability

Criteria for biodegradability are not applicable to inorganic compounds.

Will be protolized to H⁺, NO₃⁻, F⁻.

12.3 Bioaccumulative potential

Hydrofluoric acid: BCF 150. Log Pow 0.23. Fluoride accumulates in the endo- and exoskeleton of aquatic organisms.
Sulfuric acid: Not bioaccumulative

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

The contents of the product do are not expected to be persistent, bioaccumulative and toxic substances (PBT) or very persistent and very bioaccumulative substances (vPvB).

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No other adverse effects known

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Spillages and residues of this product and contaminated packaging must be disposed of as hazardous waste. Waste from products must not be allowed to contaminate soil or water, or be released into the environment. Consult the local authorities for information on the disposal of waste.

SECTION 14: Transport information

14.1 UN number	UN 2922
14.2 UN proper shipping name	Corrosive liquid, toxic, n.o.s. (hydrofluoric acid, nitric acid)
14.3 Transport hazard class(es)	8 (6.1)
14.4 Packing group	II
14.5 Environmental hazards	No
14.6 Special precautions for user	No special precautions beyond the current regulations for the transportation of dangerous goods.
14.7 Transport in bulk according to IMO instrument.	Not relevant.

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

Individuals' acquisition, importation, possession and use of this product are subject to restrictions in accordance with Regulation (EU) 2019/1148. All suspected transactions and significant thefts and disappearances must be reported to the police

15.2 Chemical safety assessment

Not available.

SECTION 16: Other information**Codes for classification in sections 2 and 3:**

Acute Tox 1/2/3: Acute Toxicity Category 1/2/3, Eye Dam. 1: Serious eye injuries category 1, Met. Corr. 1: Corrosive to metals category 1, Ox. Liq. 3: Oxidizing liquids category 3, Skin Corr. 1A: Skin corrosion category 1A

EUH071: Corrosive to the respiratory tract.

H272: May intensify fire. Oxidizing, H290: May be corrosive to metals, H300: Fatal if swallowed, H301: Toxic if swallowed, H310: Fatal by skin contact, H330: Fatal by inhalation, H331: Toxic by inhalation, H314: Causes severe burns to skin and eyes, H318: Causes serious eye damage

Changes following the latest review:

Changes in Section:

1.1, 2.1, 2.2, 2.2, 4.2, 5.2, 5.3, 8.1, 8.2, 10.3, 10.6, 11.1, 11.2, 12.1, 12.3, 14.7

Other information:

TA Chemistry AB request the users of this product to study this Safety Data Sheet (S.D.S.) and become aware of product hazards and safety information.

To promote safe use of this product a user should:

- notify its employees, agents and contractors of the information on this S.D.S and any product hazards/safety information.

- furnish this same information to each of its customers for the product

- request such customers to notify employees and customers for the same product hazards and safety information. The information herein is given in good faith and based on technical data that TA Chemistry AB

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Contact TA Chemistry AB for more information.