

SAFETY DATA SHEET

NITRIC ACID

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

1.1 Product identifier:	
CAS Number:	7697-37-2
EC number:	231-714-2
1.2 SYNONYMS:	- Hydrogen nitrate - Aqua fortis (old name)

SECTION 2: Hazards identification:

2.1 Classification of the substance or mixture:	Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation.
2.2 Label elements:	Labelling according to Regulation (EC) No 1272/2008 Acute toxicity, Inhalation (Category 3) Oxidizing liquids, (Category 3) Corrosive to metals, (Category 1) Skin corrosion, (Category 1A) Serious eye damage, (Category 1)
Hazard Pictograms:	
Signal Word:	Danger
Hazard statements:	H272: May intensify fire; oxidizer. H290: May be corrosive to metals. H314: Causes severe skin burns and eye damage. H331: Toxic if inhaled.
Precautionary Statements:	P261: Avoid breathing dust. P264: Wash skin thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. P273: Avoid release to the environment. P303+P361+P353: IF ON SKIN (or hair): Remove/take off immediately

	all contaminated clothing. Rinse skin with water/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. P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. P404: Store in a closed container. P501: Dispose of contents/ container to an approved waste disposal plant.
2.3 Other hazards:	
Inhalation:	can cause severe respiratory irritation, coughing, shortness of breath, pulmonary edema, and long-term lung damage.
Ingestion:	can cause severe burns to the mouth, throat, and stomach, leading to pain, vomiting, internal bleeding, and potentially life-threatening organ damage.
Skin Contact:	can cause severe burns, redness, pain, and permanent tissue damage.
Eye contact:	can cause severe irritation, burns, corneal damage, and permanent vision loss.
Chronic Exposure:	can lead to persistent respiratory problems, lung tissue damage, chronic bronchitis, and increased risk of dental erosion and skin sensitization.
Aggravation of pre-existing conditions:	can aggravate pre-existing respiratory conditions (like asthma or chronic bronchitis), skin disorders, and eye problems, worsening symptoms and increasing susceptibility to injury.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation:	Substances
CAS No:	Description: 7697-37-2 NITRIC ACID (PURITY MAY VARY AS PER GRADE)
Identification number(s):	EC number: 231-714-2

SECTION 4: First aid measures

4.1 Description of first aid measures	
General information:	
After inhalation:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
After skin contact:	Remove contaminated clothing immediately. Wash with plenty of water. Consult a physician.
After eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. consult a physician.
After swallowing:	Rinse mouth with water. Immediately after ingestion. If conscious, make victim drink two glasses at most immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed:	Acute exposure to nitric acid can cause severe burns, coughing, shortness of breath, vomiting, and eye damage, while delayed effects may include chronic respiratory problems, lung tissue damage, and persistent skin or eye injuries.
4.3 Indication of any immediate medical attention and special treatment needed:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media:	Water, Carbon dioxide dry chemical, Alcohol-resistant foam.
5.2 Special hazards arising from the substance or mixture:	Nitrogen oxides.
5.3 Advice for firefighters:	Wear fully protective suit, safety glasses and respiratory device. Cool tanks/drums with water spray/remove them into safety.
5.4 further information:	no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Avoid dust accumulation. Seek medical attention.
6.2 Environmental precautions:	Do not enter this chemical into drains.
6.3 Methods and material for containment and cleaning up:	Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:	For use in are with adequate ventilation. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material
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	Do not use in confined spaces. Electrostatic discharge protection. Minimize dust generation and accumulation. Avoid ingestion and inhalation.
7.2 Conditions for safe storage, including any incompatibilities:	Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area.
Requirements to be met by storerooms and receptacles:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
7.3 Specific end uses:	no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters	
Additional information about design of technical facilities:	A system of local and general exhaust is recommended.
8.2 Exposure controls	
Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment:	Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc.
General protective and hygienic measures:	Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment.
	Respiratory protection: Required.
Protection of hands:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated

	gloves after use in accordance with applicable laws. Wash and dry hands.
	Eye protection: Required
Protection of Body:	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Information	
Appearance: Form:	Liquid
Colour:	Colorless to pale yellow
Odour:	Pungent, choking, acrid
pH-value:	1
Melting point/Melting range:	-42°C
Boiling point/Boiling range:	83°C
Flammability (solid, gaseous):	Non-Flammable
Ignition temperature:	No data available
Decomposition temperature:	83°C
Self-igniting:	None
Flash point:	Not applicable
Danger of explosion:	None
Explosion limits: Lower:	No data available
Explosion limits: Upper:	No data available
Vapour pressure:	30 mmHg at 20°C
Density at 20 °C:	1.51 g/cm ³
Relative density:	1.51
Vapour density:	2.3
Evaporation rate:	No data available
Solubility in / Miscibility with- -water at 20 °C:	Soluble
Partition coefficient:(n- octanol/water)	-0.89
Viscosity:	1.04 mPa.s at 20°C

SECTION 10: Stability and reactivity

10.1 Reactivity	No data available
10.2 Chemical stability	This chemical is stable under storage conditions.

10.3 Possibility of hazardous reactions	Reacts violently with organic materials, reducing agents, and many metals
10.4 Conditions to avoid	Heat, open flames, sparks, moisture.
10.5 Incompatible materials	Strong reducing agents, strong bases, organic compounds.
10.6 Hazardous decomposition products	Nitrogen oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute Toxicity:	LD50 (Oral, Rat): no data available LD50 (Dermal, Rabbit): no data available LC50 (Inhalation Rat): no data available
Skin corrosion/Irritation:	Corrosive
Serious eye damage/irritation:	Causes serious eye damage
Respiratory damage/irritation:	No data available
Ingestion:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	No data available
Reproductive toxicity:	No data available
Specific target organ toxicity - single exposure:	No data available
Specific target organ toxicity - repeated exposure:	No data available
Aspiration hazard:	No data available
Signs and Symptoms of Exposure:	Refer section 2.3
11.2 Additional toxicological information	
Biodegradability:	Readily biodegradable

SECTION 12: Ecological information

12.1 Toxicity Aquatic toxicity:	LC50(fish): no data available EC50(daphnia): no data available ErC50(algae): no data available
12.2 Persistence and degradability:	Readily biodegradable

12.3 Bioaccumulative potential:	Low bioaccumulative
12.4 Mobility in soil:	High mobility
12.5 Other adverse effects:	No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Uncleaned packaging Recommendation:	dispose of in accordance with local hazardous waste regulations
Recommended cleansing agents:	Water, dilute sodium bicarbonate solution, sand.

SECTION 14: Transport information

14.1 UN-Number · ADR, ADN, IMDG, IATA:	2031
14.2 UN proper shipping name · ADR, ADN, IMDG, IATA:	NITRIC ACID
14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA :	8 (5.1)
14.4 Packing group · ADR, IMDG, IATA:	2
14.5 Environmental hazards:	None
14.6 Special precautions for user:	Handle responsibly.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Directive 2012/18/EU	Directive 2012/18/EU, under that this substance is classified in listed substances as oxidizing solid and acute toxic.
Named dangerous substances:	This substance is listed in the part 1 annex 1 to the directive.
15.2 Chemical safety assessment:	Chemical assessment has not been carried out.

SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and

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