

Nitric Acid ACS

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 11/24/2016

Revision date: 31/10/2018

Version No.: 3.0

SECTION 1 : Identification

1.1. Product identifier

Product form	: Substance
Trade name	: Nitric Acid ACS
Chemical name	: Nitric Acid
Type of product	: Solution, Group
CAS No	: 7697-37-2
Product code	: 8883
Formula	: HNO ₃
Product group	: Trade product

1.2. Recommended use and restrictions on use

Recommended uses and restrictions	: Manufacture of fertilizers, dyes, metal treatment, compounds of Cleaning, polishing, intermediate chemical, oxidizing agents
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1.3. Supplier

Amplex Chemical Products Ltd.
 600 Avenue Delmar
 H9R 4A8 Pointe Claire
 T 514-630-3309 - F 514-630-5951
info@amplexchem.com - <http://www.amplexchem.com>

1.4. Emergency telephone number

Emergency number	: Terrapure environmental: 1-800-567-7455(24/24)
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SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS-CA)

Oxidising Liquids, Category 3	H272
Corrosive to metals, Category 1	H290
Acute toxicity (inhalation:dust,mist) Category 3	H331
Skin corrosion/irritation, Category 1A	H314
Serious eye damage/eye irritation, Category 1	H318

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-CA labelling

Hazard pictograms (GHS-CA) :



Signal word (GHS-CA)	: Danger
Hazard statements (GHS-CA)	: H272 - May intensify fire; oxidiser H290 - May be corrosive to metals H314 - Causes severe skin burns and eye damage H331 - Toxic if inhaled
Precautionary statements (GHS-CA)	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking P220 - Keep away from clothing and other combustible materials P234 - Keep only in original container P260 - Do not breathe dust/fume/gas/mist/vapours/spray P264 - Wash hands, forearms and face thoroughly after handling P271 - Use only outdoors or in a well-ventilated area P280 - Wear gloves/protective clothing/eye protection/face protection P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

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P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
 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
 P311 - Call a POISON CENTER or doctor
 P321 - Specific treatment (Treat symptomatically)
 P363 - Wash contaminated clothing before reuse
 P370+P378 - In case of fire: Use media other than water to extinguish
 P390 - Absorb spillage to prevent material damage
 P403+P233 - Store in a well-ventilated place. Keep container tightly closed
 P405 - Store locked up
 P406 - Store in a corrosion resistant container with a resistant inner liner
 P501 - Dispose of contents / container to a hazardous or special waste collection point in accordance with municipal, provincial and federal regulations.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-CA)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Chemical name/Synonyms	Product identifier	%wt/wt	Classification (GHS-CA)
nitric acid, (Main constituent)	Nitric acid, azotic acid, engravers acid	(CAS No) 7697-37-2	65 - 70	Ox. Liq. 3, H272 Met. Corr. 1, H290 Acute Tox. 3 (Inhalation:dust,mist), H331 Skin Corr. 1A, H314 Eye Dam. 1, H318

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Wash immediately with lots of water (15 minutes)/shower. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.
First-aid measures after eye contact	: Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Cover eyes aseptically. Take victim to an ophthalmologist.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Give milk to drink. Do not induce vomiting. Do not give activated charcoal. Do not give chemical antidote. Immediately consult a doctor/medical service. Call Poison Information Centre. Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/injuries after inhalation	: Irritation of the respiratory tract. Dry/sore throat. Corrosion of the upper respiratory tract. Coughing. FOLLOWING SYMPTOMS MAY APPEAR LATER: Respiratory difficulties. Possible inflammation of the respiratory tract. Risk of lung oedema. Blue/grey discolouration of the skin.
Symptoms/injuries after skin contact	: Yellow skin. May stain the skin. Caustic burns/corrosion of the skin. Slow-healing wounds.
Symptoms/injuries after eye contact	: Corrosion of the eye tissue. Permanent eye damage.
Symptoms/injuries after ingestion	: Nausea. Vomiting. Abdominal pain. Burns to the gastric/intestinal mucosa. Possible esophageal perforation. Shock.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Affection/discolouration of the teeth. Risk of pneumonia.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

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SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : No unsuitable extinguishing media known.

5.3. Specific hazards arising from the hazardous product

Fire hazard : May intensify fire; oxidizer.

5.4. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.2. Methods and materials for containment and cleaning up

For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Dilute toxic gases/vapours with water spray. Take account of toxic/corrosive precipitation water. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain.

Methods for cleaning up : Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite or powdered limestone. Do not take up in combustible material such as: saw dust. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Spill must not return in its original container. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the workstation. Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. No smoking. Wear personal protective equipment. Avoid contact with skin and eyes. Do not breathe gas / mist / vapors / spray.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when handling this product. Wash hands after handling.

7.2. Conditions for safe storage, including any incompatibilities

Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.

Storage area : Store in a cool area. Keep out of direct sunlight. Store in a dry area. Store in a dark area. Ventilation at floor level. Fireproof storeroom. Keep locked up. Provide for a tub to collect spills. Aboveground. Keep only in the original container. Store only in a limited quantity. Meet the legal requirements.

Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials. reducing agents. (strong) bases. cellulosic materials. organic materials. metal powders. water/moisture.

Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. dry. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: stainless steel. aluminium. glass. MATERIAL TO AVOID: synthetic material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Nitric Acid ACS (7697-37-2)		
USA - ACGIH	ACGIH TWA (ppm)	2 ppm
USA - ACGIH	ACGIH STEL (ppm)	4 ppm
USA - ACGIH	Remark (ACGIH)	URT & eye irr; dental erosion
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
USA - OSHA	OSHA PEL (TWA) (ppm)	2 ppm

8.2. Appropriate engineering controls

No additional information available

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8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing	: GIVE LESS RESISTANCE: polyethylene/ethylenevinylalcohol. GIVE POOR RESISTANCE: chloroprene rubber. nitrile rubber. polyethylene. PVA. natural fibres.
Hand protection	: Gloves.
Eye protection	: Safety glasses.
Skin and body protection	: Head/neck protection. Corrosion-proof clothing.
Respiratory protection	: Gas mask with filter type B. Gas mask with filter type E. Gas mask with filter type NO. High vapour/gas concentration: self-contained respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 63.01 g/mol
Colour	: Colourless-yellow. On exposure to light: red-brown.
Odour	: Irritating/pungent odour. Asphyxiating odour.
Odour threshold	: 0.29 - 0.98 ppm 0.75 - 2.5 mg/m ³
pH	: 1 (6 % solution)
pH solution	: 6 %
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: -42 - -38 °C
Freezing point	: No data available
Boiling point	: 83 - 122 °C
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 7.3 - 58.5 hPa (20 °C)
Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: 2.2
Relative density	: 1.4 - 1.5
Relative density of saturated gas/air mixture	: 1.01
Density	: 1.413 – 1.513 kg/m ³
Relative gas density	: No data available
Solubility	: Exothermically soluble in water. Soluble in ether. Water: Complete
Log Pow	: -2.3 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0.0009 - 0.002 Pa.s (20 °C)
Viscosity, kinematic (calculated value) (40 °C)	: No data available
Explosive properties	: No data available
Oxidising properties	: May intensify fire; oxidiser.
Explosive limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

Saturation concentration	: 10 g/m ³
VOC content	: 0 %
Other properties	: Gas/vapour heavier than air at 20°C. Hygroscopic. Producing fumes/mist. Physical properties depending on the concentration. Substance has acid reaction.

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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	: May intensify fire; oxidiser. Reacts with most metals to produce hydrogen gas which could make an explosive mixture with air.
Chemical stability	: Stable, under normal conditions. Becomes yellow when exposed to light.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.
Incompatible materials	: Incompatible with most common metals, water, amines, metal oxides, acetic anhydride, strong bases, organic material and alkalizes. Avoid direct sunlight.
Hazardous decomposition products	: Nitrogen oxides (NO, NO ₂ , N ₂ O, N ₂ O ₃), nitric acid fumes or vapours, toxic and corrosive fumes, hydrogen gas (flammable and/or explosive).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 1 (6 % solution)
Serious eye damage/irritation	: Causes serious eye damage. pH: 1 (6 % solution)
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Classification concerning the environment: not applicable.
Ecology - air	: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Maximum concentration in drinking water: 50 mg/l (nitrate) (Directive 98/83/EC). Harmful to fishes. Slightly harmful to invertebrates (Daphnia). May cause eutrophication. pH shift.

Nitric Acid ACS (7697-37-2)	
LC50 fish 2	72 ppm (LC50; 96 h)
EC50 Daphnia 1	180 mg/l (EC50; 48 h)

12.2. Persistence and degradability

Nitric Acid ACS (7697-37-2)	
Persistence and degradability	Biodegradability: not applicable. No (test) data on mobility of the components available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

12.3. Bioaccumulative potential

Nitric Acid ACS (7697-37-2)	
BCF fish 1	<= 1 (BCF)
Log Pow	-2.3 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)
Bioaccumulative potential	Bioaccumulation: not applicable.

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12.4. Mobility in soil

Nitric Acid ACS (7697-37-2)

Log Pow : -2.3 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse. Remove for physico-chemical/biological treatment. Remove to an authorized dump (Class I). Treat using the best available techniques before discharge into drains or the aquatic environment.

Additional information : Dispose of contents / container to a hazardous or special waste collection point in accordance with municipal, provincial and federal regulations.

SECTION 14: Transport information

14.1. Basic shipping description

In accordance with TDG

Transportation of Dangerous Goods

UN-No. (TDG) : UN2031
 Packing group : II - Medium Danger
 TDG Primary Hazard Classes : 8 - Class 8 - Corrosives
 TDG Subsidiary Classes : 5.1
 Transport document description : UN2031 NITRIC ACID (other than red fuming, with at least 65%, but not more than 70% nitric acid), 8 (5.1), II
 Proper Shipping Name (TDG) : NITRIC ACID
 other than red fuming, with at least 65%, but not more than 70% nitric acid
 Hazard labels (TDG) : 8 - Corrosive substances
 5.1 - Oxidizing substances



ERAP Index : 3 000
 Explosive Limit and Limited Quantity Index : 1 L
 Passenger Carrying Ship Index : Forbidden
 Excepted quantities (TDG) : E1
 Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : Forbidden

14.2. Transport information/DOT

DOT

UN-No.(DOT) : 2031
 Packing group (DOT) : II - Medium Danger
 Proper Shipping Name (DOT) : NITRIC ACID, other than red fuming, with at least 65%, but not more than 70% nitric acid
 Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
 Subsidiary Classes(DOT) : 5.1 - Oxidizing substances
 Dangerous for the environment : No
 Other information : No supplementary information available.

14.3. Air and sea transport

IMDG

UN-No. (IMDG) : 2031

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Proper Shipping Name (IMDG)	: NITRIC ACID, other than red fuming, with at least 65%, but not more than 70% nitric acid
Class (IMDG)	: 8 - Class 8 - Corrosive material
Subsidiary Classes(IMDG)	: 5.1 - Oxidizing substances
Dangerous for the environment	: No
Class (IMDG)	: 8 - Corrosive substances
Packing group (IMDG)	: II - Medium Danger

IATA

UN-No. (IATA)	: 2031
Proper Shipping Name (IATA)	: NITRIC ACID, other than red fuming, with at least 65%, but not more than 70% nitric acid
Class (IATA)	: 8 - Class 8 - Corrosive material
Subsidiary Classes(IATA)	: 5.1 - Oxidizing substances
Packing group (IATA)	: II - Medium Danger

SECTION 15: Regulatory information

15.1. National regulations

No additional information available

15.2. International regulations

Nitric Acid ACS (7697-37-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

SECTION 16: Other information

Date of issue	: 24/11/2016
Revision date	: 31/10/2018

Full text of H-statements:

H272	May intensify fire; oxidiser
H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H331	Toxic if inhaled

Amplex-GHS-SDS

IMPORTANT: The information presented here is believed to be accurate and is intended as a guide only. Users must make their own tests to determine the suitability of these products for their own purposes. Users assume all risks of use, storage and handling of the product. No warranty, express or implied, is made, including, without limitation, the implied warranties of merchantability and fitness for a particular purpose. Nothing in this document can be interpreted as an operating license or recommendation to infringe patents



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CODE: 8883