



# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 01/26/2015

Version 1.5

## SECTION 1. Identification

### Product identifier

Product number	101799
Product name	Nitric acid 69% for analysis EMSURE® ACS, Reag. Ph Eur

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

Identified uses	Reagent for analysis, Chemical production
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### Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   General Inquiries: +1-978-715-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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## SECTION 2. Hazards identification

### GHS Classification

Oxidizing liquid, Category 3, H272  
Corrosive to Metals, Category 1, H290  
Skin corrosion, Category 1A, H314  
Serious eye damage, Category 1, H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

#### 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.

#### Precautionary Statements

P210 Keep away from heat.

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101799
Product name	Nitric acid 69% for analysis EMSURE® ACS, Reag. Ph Eur

Version 1.5

P220 Keep/Store away from clothing/ combustible materials.  
P221 Take any precaution to avoid mixing with combustibles.  
P234 Keep only in original container.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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/ physician.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P363 Wash contaminated clothing before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
P390 Absorb spillage to prevent material damage.  
P405 Store locked up.  
P406 Store in corrosive resistant stainless steel container with a resistant inliner.  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

Chemical nature	Aqueous solution
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### Hazardous ingredients

*Chemical Name (Concentration)*

CAS-No.

*nitric acid (>= 50 % - < 70 % )*

7697-37-2

Exact percentages are being withheld as a trade secret.

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## SECTION 4. First aid measures

### Description of first-aid measures

*General advice*

First aider needs to protect himself.

*Inhalation*

After inhalation: fresh air. Call in physician.

*Skin contact*

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

*Eye contact*

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101799	Version 1.5
Product name	Nitric acid 69% for analysis EMSURE® ACS, Reag. Ph Eur	

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### *Ingestion*

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation!). Call a physician immediately. Do not attempt to neutralize.

Never give anything by mouth to an unconscious person.

### **Most important symptoms and effects, both acute and delayed**

Irritation and corrosion, Cough, Shortness of breath, Bloody vomiting, death, Risk of blindness!  
The following applies to nitrites/nitrates in general: methemoglobinemia after the uptake of large quantities.

### **Indication of any immediate medical attention and special treatment needed**

No information available.

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## **SECTION 5. Fire-fighting measures**

### **Extinguishing media**

#### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### **Special hazards arising from the substance or mixture**

Not combustible.

Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapors.

Fire may cause evolution of:

nitrous gases, nitrogen oxides

### **Advice for firefighters**

#### *Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

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

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## **SECTION 6. Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### **Environmental precautions**

Do not empty into drains.

### **Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills.

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Product number 101799  
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Version 1.5

Observe possible material restrictions (see sections 7 and 10).  
Take up with liquid-absorbent and neutralizing material (e.g. Chemizorb® H<sup>+</sup>, Art. No. 101595).  
Dispose of properly. Clean up affected area.

### SECTION 7. Handling and storage

#### Precautions for safe handling

Observe label precautions.

#### Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

No metal or light-weight-metal containers.

Tightly closed. Do not store near combustible materials.

Store at +2°C to +25°C (+36°F to +77°F).

### SECTION 8. Exposure controls/personal protection

#### Exposure limit(s)

##### Ingredients

Basis	Value	Threshold limits	Remarks
<i>nitric acid 7697-37-2</i>			
ACGIH	Time Weighted Average (TWA):	2 ppm	
	Short Term Exposure Limit (STEL):	4 ppm	
NIOSH/GUIDE	Recommended exposure limit (REL):	2 ppm	
		5 mg/m <sup>3</sup>	
	Short Term Exposure Limit (STEL):	4 ppm	
		10 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	2 ppm	
		5 mg/m <sup>3</sup>	
Z1A	Time Weighted Average (TWA):	2 ppm	
		5 mg/m <sup>3</sup>	
	Short Term Exposure Limit (STEL):	4 ppm	
		10 mg/m <sup>3</sup>	

#### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

#### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

#### Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101799
Product name	Nitric acid 69% for analysis EMSURE® ACS, Reag. Ph Eur

Version 1.5

### *Eye/face protection*

Tightly fitting safety goggles

### *Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

### *Other protective equipment:*

Acid-resistant protective clothing.

### *Respiratory protection*

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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## SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	stinging
Odor Threshold	No information available.
pH	< 1 at 68 °F (20 °C)
Melting point	-41 °C
Boiling point/boiling range	252 °F (122 °C) at 1,013 hPa
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	9.4 hPa at 68 °F (20 °C)
Relative vapor density	No information available.
Density	1.41 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101799	Version 1.5
Product name	Nitric acid 69% for analysis EMSURE® ACS, Reag. Ph Eur	

Water solubility	at 68 °F (20 °C) soluble
Partition coefficient: n-octanol/water	Not applicable for inorganic substances
Autoignition temperature	No information available.
Decomposition temperature	Distillable in an undecomposed state at normal pressure.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	The substance or mixture is classified as oxidizing with the category 3.
Corrosion	May be corrosive to metals.

### SECTION 10. Stability and reactivity

#### Reactivity

strong oxidizing agent

#### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

#### Possibility of hazardous reactions

Risk of explosion with:

Risk of ignition or formation of inflammable gases or vapors with:

formaldehyde, glycerol, sulfuric acid, hydrogen iodide, chlorates, Organic Substances, carbon/soot, Hydrocarbons, Alkali metals, lithium silicide, organic solvent, phosphorus, pyridine, sulfur dioxide, hydrogen sulfide, hydrogen peroxide, acetonitrile, acetylidene, Alcohols, anilines, antimony hydride, arsenic hydride, Amines, Ammonia, combustible substances, phosphides, Aldehydes, dichloromethane, hydrazines, Dioxane, acetic acid, Acetone, Acetic anhydride, Fluorine, Powdered metals

Violent reactions possible with:

Nitriles, antimony, arsenic, Boron, ferric oxide, alkalines, sodium hypochlorite

#### Conditions to avoid

no information available

#### Incompatible materials

Cellulose, Metals

Contact with metals may lead to the formation of nitrous gases and hydrogen.

#### Hazardous decomposition products

in the event of fire: See section 5.

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 101799  
Product name Nitric acid 69% for analysis EMSURE® ACS, Reag. Ph Eur

---

Version 1.5

### SECTION 11. Toxicological information

#### Information on toxicological effects

##### *Likely route of exposure*

Inhalation, Eye contact, Skin contact

##### *Target Organs*

Eyes

Skin

Respiratory system

teeth

##### *Acute oral toxicity*

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

##### *Acute inhalation toxicity*

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:., damage of respiratory tract, After a latency period:., Inhalation may lead to the formation of oedemas in the respiratory tract.

##### *Skin irritation*

Mixture causes severe burns.

##### *Eye irritation*

Mixture causes serious eye damage. Risk of blindness!

##### *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

##### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

##### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

#### Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

#### Further information

After uptake:

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 101799  
Product name Nitric acid 69% for analysis EMSURE® ACS, Reag. Ph Eur

---

Version 1.5

Bloody vomiting, strong pain (risk of perforation!), tissue damage, death  
The following applies to nitrites/nitrates in general: methemoglobinemia after the uptake of large quantities.  
Handle in accordance with good industrial hygiene and safety practice.

### Ingredients

#### *nitric acid*

##### *Skin irritation*

Rabbit

Result: Causes severe burns.  
(IUCLID)

##### *Eye irritation*

Rabbit

Result: Causes burns.  
(IUCLID)

##### *Germ cell mutagenicity*

##### *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

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## SECTION 12. Ecological information

### Ecotoxicity

No information available.

### Persistence and degradability

#### *Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

### Bioaccumulative potential

#### *Partition coefficient: n-octanol/water*

Not applicable for inorganic substances

### Mobility in soil

No information available.

#### *Additional ecological information*

Biological effects:

Harmful effect due to pH shift. Forms corrosive mixtures with water even if diluted. Does not cause biological oxygen deficit. Hazard for drinking water supplies.

Discharge into the environment must be avoided.

### Ingredients

#### *nitric acid*

##### *Toxicity to fish*

LC50 *Gambusia affinis* (Mosquito fish): 72 mg/l; 96 h (IUCLID)

##### *Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.



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according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

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Product name Nitric acid 69% for analysis EMSURE® ACS, Reag. Ph Eur

Version 1.5

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

## Henry constant

2482 Pa·m<sup>3</sup>/mol

Method: (calculated)

(Lit.) Distribution preferentially in air.

## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

## SECTION 14. Transport information

### Land transport (DOT)

UN number UN 2031  
Proper shipping name NITRIC ACID  
Class 8 (5.1)  
Packing group II  
Environmentally hazardous --

### Air transport (IATA)

UN number UN 2031  
Proper shipping name NITRIC ACID  
Class 8 (5.1)  
Packing group II  
Environmentally hazardous --  
Special precautions for user yes  
Not permitted for transport

### Sea transport (IMDG)

UN number UN 2031  
Proper shipping name NITRIC ACID WITH AT LEAST 65% BUT NOT MORE THAN 70%  
Class 8 (5.1)  
Packing group II  
Environmentally hazardous --  
Special precautions for user yes  
EmS F-A S-Q

## SECTION 15. Regulatory information

United States of America

SARA 313

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 101799

Version 1.5

Product name Nitric acid 69% for analysis EMSURE® ACS, Reag. Ph Eur

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The following components are subject to reporting levels established by SARA Title III, Section 313:

*Ingredients*

nitric acid	7697-37-2	69 %
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**SARA 302**

The following components are subject to reporting levels established by SARA Title III, Section 302:

*Ingredients*

nitric acid	7697-37-2
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**Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

*Ingredients*

nitric acid

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

*Ingredients*

nitric acid

**DEA List I**

Not listed

**DEA List II**

Not listed

### US State Regulations

**Massachusetts Right To Know**

*Ingredients*

nitric acid

**Pennsylvania Right To Know**

*Ingredients*

nitric acid

**New Jersey Right To Know**

*Ingredients*

nitric acid

**California Prop 65 Components**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

**Notification status**

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

KOREA: Not in compliance with the inventory

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### SECTION 16. Other information

**Training advice**

Provide adequate information, instruction and training for operators.

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 101799  
Product name Nitric acid 69% for analysis EMSURE® ACS, Reag. Ph Eur

Version 1.5

### Labeling

#### *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.

#### *Precautionary Statements*

##### Prevention

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

##### Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

#### **Full text of H-Statements referred to under sections 2 and 3.**

H272	May intensify fire; oxidizer.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

#### **Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date 01/26/2015

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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