

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/16/2006

Reviewed on 03/31/2006

1 Identification of substance:**Product details:****Product name:** Nitric acid, 65-70%**Stock number:** 10984**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company
 Johnson Matthey Catalog Company, Inc.
 30 Bond Street
 Ward Hill, MA 01835-8099
 Emergency Phone: (978) 521-6300
 CHEMTREC: (800) 424-9300
 Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department**Emergency information:**

During normal hours the Health, Safety and Environmental Department.
 After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:**Chemical characterization:****Description: (CAS#)**

nitric acid (CAS# 7697-37-2); 65-70%
 water (CAS# 7732-18-5); 30-35%

Identification number(s):**EINECS Number:** 231-714-2**EU Number:** 007-004-00-1**3 Hazards identification****Hazard description:**

C Corrosive
 O Oxidizing

Information pertaining to particular dangers for man and environment

R 8 Contact with combustible material may cause fire.

R 35 Causes severe burns.

Classification system**HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

HEALTH	3
FIRE	0
REACTIVITY	2

Health (acute effects) = 3

Flammability = 0

Reactivity = 2

4 First aid measures**General information**

Immediately remove any clothing soiled by the product.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

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Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.**5 Fire fighting measures****Suitable extinguishing agents**

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Nitrogen oxides (NO_x)**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Absorb with liquid-binding material.

Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling****Information for safe handling:**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Substance/product can reduce the ignition temperature of flammable substances.

Storage**Requirements to be met by storerooms and receptacles:**

No special requirements.

Information about storage in one common storage facility:

Store away from flammable substances.

Store away from reducing agents.

Further information about storage conditions:

Keep container tightly sealed.

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Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:

Nitric acid

	ppm
ACGIH TLV	2; 4-STEL
Austria MAK	2
Belgium TWA	2; 4-STEL
Denmark TWA	2
Finland TWA	2; 5-STEL (skin)
France VME	2; 5-VLE
Germany MAK	2
Hungary	5 mg/m ³ -STEL
Japan OEL	2
Korea TLV	2; 4-STEL
Norway TWA	2
Poland TWA	5 mg/m ³ ; 10 mg/m ³ -STEL
Russia TWA	2; 2 mg/m ³ -STEL (skin)
Sweden NGV	2; 5-KTV
United Kingdom LTEL	2; 4-STEL
USA PEL	2

Additional information: No data**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Protection of hands: Impervious gloves

Eye protection:

Safety glasses

Tightly sealed goggles

Full face protection

Body protection: Protective work clothing.

9 Physical and chemical properties:**General Information**

Form:	Liquid
Color:	Light yellow
Odor:	Characteristic

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Change in condition	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Flash point:	Not applicable Not determined
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not determined
Density at 20°C (68°F):	1.5027 g/cm ³
Solubility in / Miscibility with Water:	Fully miscible

10 Stability and reactivity**Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided:

Reducing agents, easily oxidized materials

Bases

Metal powders

Alkali metals

Alkaline earth metals

Cyanides

Sulfides

Dangerous reactions

Reacts with metals forming hydrogen

Reacts with reducing agents

Reacts with flammable substances

Dangerous products of decomposition: Nitrogen oxides

11 Toxicological information**Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral: LDLo: 430 mg/kg (hmn)(HNO₃)

Unreported: LDLo: 110 mg/kg (man)(HNO₃)

Primary irritant effect:**on the skin:**

Strong corrosive effect on skin and mucous membranes.

Irritant to skin and mucous membranes.

on the eye:

Strong corrosive effect.

Irritating effect.

Sensitization: No sensitizing effects known.

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Subacute to chronic toxicity:

Nitric acid is a corrosive oxidizing acid. The liquid causes burns on contact. Eye contact may cause blindness. Vapors are irritating and cause upper respiratory irritation which may be severe. Corrosive to the teeth and digestive tract on ingestion. Dilute solutions have reduced effects.

Additional toxicological information:

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:**General notes:**

Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations**Product:****Recommendation**

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information**DOT regulations:**

Hazard class: 8
Packing group: II
Hazardous substance: 1000 lbs, 454 kg
Label: 8

Land transport ADR/RID (cross-border)

ADR/RID class: 8 (C1) Corrosive substances
Danger code (Kemler): 80
UN-Number: 2031
Packaging group: II

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Description of goods: 2031 NITRIC ACID**Maritime transport IMDG:**

IMDG Class: 8
UN Number: 2031
Label 8
Packaging group: II
EMS Number: F-A,S-B
Proper shipping name: NITRIC ACID

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 8
UN/ID Number: 2031
Label 8
Packaging group: II
Proper shipping name: NITRIC ACID

15 Regulations**Product related hazard informations:****Hazard symbols:**

C Corrosive
 O Oxidizing

Risk phrases:

8 Contact with combustible material may cause fire.
 35 Causes severe burns.

Safety phrases:

23 Do not breathe fumes
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 36 Wear suitable protective clothing.
 45 In case of accident or if you feel unwell, seek medical advice immediately.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

Information about limitation of use:

For use only by technically qualified individuals.

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This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.

Contact: Darrell R. Sanders

USA