

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2540-49 Nitric Acid Solution 1:1

Revision date: 29.11.2017

Product code: 254049

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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1.2. Relevant identified uses of the substance or mixture and uses advised against**1.3. Details of the supplier of the safety data sheet**

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE LTD
Unit 1, Chestnut Road Western Industrial Estate
Dublin 12 - Ireland
Tel. +353 (0)1 4602522 * +353 (0)1 4509337
info-ie@hach.com

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Oxidising liquid: Ox. Liq. 2

Substance or mixture corrosive to metals: Met. Corr. 1

Skin corrosion/irritation: Skin Corr. 1A

Serious eye damage/eye irritation: Eye Dam. 1

Hazard Statements:

May intensify fire; oxidiser.

May be corrosive to metals.

Causes severe skin burns and eye damage.

Causes serious eye damage.

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

Nitric acid ... %

Signal word: Danger**Pictograms:****Hazard statements**

H272

May intensify fire; oxidiser.

H290

May be corrosive to metals.

H314

Causes severe skin burns and eye damage.

Precautionary statements

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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

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P303+P361+P353 present and easy to do. Continue rinsing.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310 Immediately call a POISON CENTER/doctor.

Additional advice on labelling

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			50-60 %
	231-791-2			
7697-37-2	Nitric acid ... %			40-50 %
	231-714-2	007-004-00-1		
	Ox. Liq. 2, Skin Corr. 1A; H272 H314 EUH071			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Take off all contaminated clothing immediately.
Show this safety data sheet to the doctor in attendance.
First aider needs to protect himself.

After inhalation

Move to fresh air.
Call a physician immediately.

After contact with skin

Wash off immediately with plenty of water for at least 15 minutes. Take off all contaminated clothing immediately.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

After contact with eyes

Rinse immediately with plenty of water for at least 15 minutes. Call a physician immediately.

After ingestion

Do NOT induce vomiting. Drink 1 or 2 glasses of water.
Never give anything by mouth to an unconscious person.
Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Irritation and corrosion

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

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

Unsuitable extinguishing media

No Limit

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released: Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

Gives off hydrogen by reaction with metals.

Additional advice: oxidizing

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

Suppress (knock down) gases/vapours/mists with a water spray jet.

Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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

Use personal protective equipment. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).

6.4. Reference to other sections

13. Disposal considerations

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

Avoid contact with skin and eyes.

Do not breathe vapours or spray mist. Use only in well-ventilated areas.

Advice on protection against fire and explosion

See also section 5

Further information on handling

Observe label precautions.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep at temperatures between 10 and 25 °C. Keep tightly closed in a dry, cool and well-ventilated place. Store away from heat. Keep away from combustible materials.

Do not use containers made of Light metals, Metals.

Corrosive to metals.

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Advice on storage compatibility

Protect against Bases, Oxidizing agents, Metals

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
7697-37-2	Nitric acid	-	-		TWA (8 h)	
		1	2.6		STEL (15 min)	

Additional advice on limit values

None known.

8.2. Exposure controls**Appropriate engineering controls**

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

Protective and hygiene measures

General industrial hygiene practice.

Ensure that eye flushing systems and safety showers are located close to the working place.

Eye/face protection

Safety glasses with side-shields

Hand protection

Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.

In case of full contact:

Glove material : Nitrile rubber

Layer thickness: 0,11 mm

Break through time: 480 min

In case of contact through splashing:

Glove material : Nitrile rubber

Layer thickness: 0,11 mm

Break through time: 60 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves.

Skin protection

Avoid contact with skin, eyes and clothing.

Respiratory protection

Provide sufficient air exchange and/or exhaust in work rooms.

Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:

liquid

Colour:

colourless

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Odour: stinging
pH-Value (at 20 °C): < 0,5

Changes in the physical state

Melting point: not applicable
Initial boiling point and boiling range: 112 °C
Sublimation point: not applicable
Softening point: not applicable
Pour point: no data available
:
Flash point: not applicable
Sustaining combustion: No data available

Flammability

Solid: not applicable
Gas: not applicable

Explosive properties

not applicable

Lower explosion limits: not applicable
Upper explosion limits: not applicable
Ignition temperature: no data available

Auto-ignition temperature

Solid: no data available
Gas: no data available

Decomposition temperature: no data available

Oxidizing properties

no data available

Vapour pressure: no data available
Vapour pressure: no data available
Density (at 20 °C): 1,255 g/cm³
Bulk density: not applicable
Water solubility: miscible
(at 20 °C)

Solubility in other solvents

no data available

Partition coefficient: no data available
Viscosity / dynamic: no data available
Viscosity / kinematic: no data available
Flow time: no data available
Vapour density: no data available
Evaporation rate: no data available
Solvent separation test: no data available
Solvent content: no data available

9.2. Other information

Solid content: no data available

Corrosive in contact with metals
Mild steel: 204000 mm/a

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SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive to metals.
Strong oxidizing agents.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Combustion/explosion hazards. Organic materials, organic solvent, Alcohols, Ketones, Aldehydes, Amines, Alkali metals, Alkaline earth metals, Light metals, Metals, Ammonia, Bases, Acids, Halogenated compounds, Nitriles, Arsenic, Boron, Fluorine, hydrogen halides

10.4. Conditions to avoid

Extremes of temperature and direct sunlight. Decomposes on heating.

10.5. Incompatible materials

Metals, woven fabric, Organic materials

10.6. Hazardous decomposition products

Gives off hydrogen by reaction with metals.

Further information

Stable under recommended storage conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No toxicology information is available.

Acute toxicity

No data is available on the product itself.

Irritation and corrosivity

The product causes burns of eyes, skin and mucous membranes.
Extremely corrosive and destructive to tissue.

Sensitising effects

No known effect.

Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen.

STOT-single exposure

No known effect.

STOT-repeated exposure

No known effect.

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animal

Salpetersäure: LC50/inhalation/4h/rat = 625ppm

Additional information on tests

no data available.

Practical experience

Observations relevant to classification

no data available.

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Other observations

no data available.

Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information**12.1. Toxicity**

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7697-37-2	Nitric acid ... %					
	Acute fish toxicity	LC50	72 mg/l	96 h	Gambusia affinis	IUCLID

12.2. Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

No data is available on the product itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
7697-37-2	Nitric acid ... %	-0,21

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

Discharge into the environment must be avoided.

Further information

No known effect.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Waste disposal number of waste from residues/unused products**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Contaminated packaging

Dispose of as unused product.

The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

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SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 2031
14.2. UN proper shipping name: NITRIC ACID
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8



Classification code: C1
Limited quantity: 1 L
Transport category: 2
Hazard No: 80
Tunnel restriction code: E

Other applicable information (land transport)

Excepted Quantities: E2

Marine transport (IMDG)

14.1. UN number: UN 2031
14.2. UN proper shipping name: NITRIC ACID
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8



Marine pollutant: --
Special Provisions: -
Limited quantity: 1 L
EmS: F-A, S-B

Other applicable information (marine transport)

Excepted Quantities: E2

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 2031
14.2. UN proper shipping name: NITRIC ACID
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8



Limited quantity Passenger: 0.5 L
IATA-packing instructions - Passenger: 851
IATA-max. quantity - Passenger: 1 L
IATA-packing instructions - Cargo: 855
IATA-max. quantity - Cargo: 30 L

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Other applicable information (air transport)

Excepted Quantities: E2

Passenger-LQ: Y840

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulatory information

Employment restrictions:

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D):

2 - clearly water contaminating

15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

Changes

Revision: 29.11.2017

Safety datasheet sections which have been updated: 2, 4, 7, 11

Revision: 17.11.2015

Safety datasheet sections which have been updated: 1-16

Revision: 15.11.2013

Safety datasheet sections which have been updated: 1-16

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Ox. Liq. 2; H272	On basis of test data
Met. Corr. 1; H290	On basis of test data
Skin Corr. 1A; H314	Calculation method
Eye Dam. 1; H318	Calculation method

Relevant H and EUH statements (number and full text)

H272 May intensify fire; oxidiser.
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
EUH071 Corrosive to the respiratory tract.

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)