Nitric acid

84392-500ML

Version 4.0 Revision Date 11.06.2022 Supersedes 3

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

1.1. Product identifier

Product name	:	Nitric acid
SDS-number	:	000000021790
Type of product	:	Substance
Remarks	:	SDS according to Art. 31 of Regulation (EC) 1907/2006.
Chemical name	:	nitric acid …% [C > 70 %]
Index-No.	:	007-004-00-1
REACH Registration Number	:	no data available

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture	:	Laboratory chemicals
Uses advised against	:	none

1.3. Details of the supplier of the safety data sheet

Company	:	Honeywell International Inc. 115 Tabor Road 07950-2546 Morris Plains USA	Honeywell International, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
Telephone	:		
For further information, please contact:	:	SafetyDataSheet@Honeywell.com	

1.4. Emergency telephone number

Emergency telephone number	:	+1-703-527-3887 (ChemTrec-Transport) +1-303-389-1414 (Medical)
Country based Poison Control Center	:	see chapter 15.1

Honeywell

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Oxidizing liquids Category 2
H272 May intensify fire; oxidizer.
Corrosive to metals Category 1
H290 May be corrosive to metals.
Acute toxicity Category 1 - Inhalation
H330 Fatal if inhaled.
Skin corrosion Category 1A
H314 Causes severe skin burns and eye damage.

2.2. Label elements

REGULATION (EC) No 1272/2008

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.
		H330	Fatal if inhaled.
		EUH071	Corrosive to the respiratory tract.
Precautionary statements	:	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
		P234	Keep only in original container.
		P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P284	Wear respiratory protection.
		P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302 + P352	IF ON SKIN: Wash with plenty of 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.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.

2.3. Other hazards

Contact with combustible material may cause fire. Explosive when mixed with combustible material.

SECTION 3: Composition/information on ingredients

3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
nitric acid …% [C > 70 %]	7697-37-2 007-004-00-1 231-714-2	Ox. Liq. 2; H272 Acute Tox. 1; H330; Inhalation Skin Corr. 1A; H314 EUH071	98 % - 100 %	Ox. Liq. 3; H272:70 - < 99 % Ox. Liq. 2; H272:>= 99 %

3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:
First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician immediately.

Skin contact:
Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician immediately.

Eye contact:
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Protect unharmed eye. Call a physician immediately.

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

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

No data available

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

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms. :

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water spray
Foam
Carbon dioxide (CO2)
Dry powder

Extinguishing media which shall not be used for safety reasons:
Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Heating will cause pressure rise with risk of bursting
In case of fire hazardous decomposition products may be produced such as:
nitrogen oxides

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. Unprotected persons must be kept away. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Provide adequate ventilation. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Discharge into the environment must be avoided. Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

Dilute with plenty of water.
Use chemical neutralising agents

Neutralise with the following product(s):
lime
Never neutralise with the following products:
soda ash
Soak up with inert absorbent material.
Do not pick up with the help of saw-dust or other combustible substances.
Sweep up and shovel into suitable containers for disposal.
Dispose of in accordance with local regulations.

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:
Wear personal protective equipment. Use only in well-ventilated areas. Avoid inhalation, ingestion and contact with skin and eyes.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

Hygiene measures:
Take off all contaminated clothing immediately. Remove and wash contaminated clothing before re-use. Keep working clothes separately. When using do not eat or drink. Wash hands before breaks and at the end of workday. Regular cleaning of equipment, work area and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:
Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not leave vessels/containers open Avoid product residues in/on containers.

Advice on common storage:
Do not store with combustible materials.

7.3. Specific end use(s)

no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
nitric acid …% [C > 70 %]	BY MAC MAC STEL	2 mg/m3 Aerosol.		
nitric acid …% [C > 70 %]	EH40 WEL STEL	2,6 mg/m3 1 ppm	15 minutes	
nitric acid …% [C > 70 %]	EU ELV STEL	2,6 mg/m3 1 ppm		Indicative
nitric acid …% [C > 70 %]	ME OELD STEL	2,6 mg/m3 1 ppm	15 minutes	
nitric acid …% [C > 70 %]	XK OEL STEL	2,6 mg/m3 1 ppm		
nitric acid …% [C > 70 %]	BY MAC MAC STEL	2 mg/m3 Aerosol.		
nitric acid …% [C > 70 %]	EH40 WEL STEL	2,6 mg/m3 1 ppm	15 minutes	
nitric acid …% [C > 70 %]	EU ELV STEL	2,6 mg/m3 1 ppm		Indicative
nitric acid …% [C > 70 %]	ME OELD STEL	2,6 mg/m3 1 ppm	15 minutes	
nitric acid …% [C > 70 %]	XK OEL STEL	2,6 mg/m3 1 ppm		

MAC STEL - Short-term Exposure Limit STEL (MAC):
STEL - Short term exposure limit

DNEL/ PNEC-Values

No DNEL-data available.

No PNEC data available.

8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Personal protective equipment
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection:
Glove material: Fluorinated rubber
Break through time: < 120 min
Vitoject® 890
Gloves must be inspected prior to use.
Replace when worn.
Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.
Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.
Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer reccomends to use the chemical protective glove in practice not longer than 50% of the recomended permeation time.
Manufacturer´s directions for use should be observed because of great diversity of types .
Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:
Safety goggles

Skin and body protection:
acid-resistant protective clothing
Wear as appropriate:
Complete suit protecting against chemicals

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	colourless to yellowish
Odour	:	characteristic
molecular weight	:	63,01 g/mol
Melting point/range	:	-42 °C
Boiling point/boiling range	:	86 °C
Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	Fire or intense heat may cause violent rupture of packages. Decomposes on heating.
pH	:	< 1
Viscosity, kinematic	:	No data available
Water solubility	:	completely soluble
Partition coefficient: n-octanol/water	:	log Pow -2,3
Vapour pressure	:	No data available
Density	:	1,52 g/cm3

at 20 °C

Relative vapour density	:	No data available

9.2 Other Information

Oxidizing properties	:	The substance or mixture is classified as oxidizing with the category 2.
Corrosive to metals	:	Corrosive to metals
Evaporation rate	:	No data available
Viscosity, dynamic	:	0,746 mPa.s at 20 °C

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Fire or intense heat may cause violent rupture of packages.
Decomposes on heating.

10.3. Possibility of hazardous reactions

Strong oxidizer. Contact with other material may cause fire.

10.4. Conditions to avoid

Protect from heat/overheating.

10.5. Incompatible materials

Organic materials
Combustible material

Bases
Reducing agents
Metals

10.6. Hazardous decomposition products

nitrogen oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:
No data available

Acute dermal toxicity:
No data available

Acute inhalation toxicity:
Classification based on Annex VI of regulation 1272/2008/EC.

Skin irritation:
Classification based on Annex VI of regulation 1272/2008/EC.

Eye irritation:
Classification based on Annex VI of regulation 1272/2008/EC.

Respiratory or skin sensitisation:
No data available

Aspiration hazard:
No data available

11.2. Information on other hazards

Endocrine disrupting properties
No data available

Other information:
No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:
No data available

Toxicity to aquatic plants:
No data available

Toxicity to aquatic invertebrates:
No data available

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

Not applicable

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:
Dispose according to legal requirements.

Packaging:
Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:
Provisions relating to waste:
EC Directive 2006/12/EC; 2008/98/EEC
Regulation No. 1013/2006

For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number
ADR/RID:2032 IMDG:2032 IATA:2032

14.2 UN proper shipping name
ADR/RID:NITRIC ACID, RED FUMING
IMDG:NITRIC ACID, RED FUMING

14.3 Transport hazard class(es)
ADR/RID: 8 (5.1, 6.1) IMDG: 8 (5.1, 6.1)

14.4 Packaging group
ADR/RID: I IMDG: I

14.5 Environmental hazards
ADR/RID:no Marine pollutant: no

14.6 Special precautions for user
IMDG Code segregation group (SGG1) – ACIDS,

14.7 Maritime transport in bulk according to IMO instruments
No data available

SECTION 15: Regulatory information

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

Basis	Value	Remarks
Directive 2012/18/EC Listed in Regulation : P8: Oxidizing liquids and solids	**Quantity**: 50.000 kg **Quantity**: 200.000 kg	
Directive 2012/18/EC	**Quantity**: 5.000 kg	

Listed in Regulation : H1: ACUTE TOXIC	**Quantity**: 20.000 kg	
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of ≥ 0.1 % (w/w).
Regulation (EU) 2019/1148 on the marketing and use of explosives precursors		Contains components listed in

Poison Control Center

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+)35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftinformation);+46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
	Munich : 089/19240
Latvia	+37167042473

Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Industrial Chemicals Act (AIIC), as amended
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)
On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

nitric acid …% [C > 70 %]	:	H272	May intensify fire; oxidizer.
		H330	Fatal if inhaled.
		H314	Causes severe skin burns and eye damage.
		EUH071	Corrosive to the respiratory tract.

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:
EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very biaccumulative substance
PBT Persistent, bioaccmulative und toxic substance

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