

Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Nitric acid (1.42)

Product code(SDS NO): 37325jis_E2-2

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-Cho, Koshigaya, Saitama 343-0844, Japan

Division: Quality Assurance Department

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2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

Physiocal and chemical hazards

Oxidizing liquids: Category 3

Corrosive to metals: Category 1

HEALTH HAZARDS

Acute toxicity Inhalation: Category 1

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Specific target organ toxicity – single exposure: Category 1(respiratory system)

Specific target organ toxicity – repeated exposure: Category 1(respiratory system, tooth)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment – acute hazard: Category 3

(Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

Label elements



Signal word: Danger

HAZARD STATEMENT

May intensify fire; oxidizer

May be corrosive to metals

Fatal if inhaled

Causes severe skin burns and eye damage

Causes serious eye damage

Causes damage to organs after single exposure

Causes damage to organs through prolonged or repeated exposure

Harmful to aquatic life

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Keep/Store away from clothing/combustible materials.

Take any precaution to avoid mixing with combustibles and/or other incompatible materials.

Nitric acid (1.42),JUNSEI CHEMICAL CO., LTD.,37325jis_E2-2,12/12/2017

Keep only in original container.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear respiratory protection.(as specified by the manufacturer/supplier or the competent authority.)
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves, protective clothing or face protection.
Wear protective gloves and face protection.
Wear eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

In case of fire: Use appropriate media for extinction.
Absorb spillage to prevent material damage.
Get medical advice/attention if you feel unwell.
Immediately call a POISON CENTER or doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Store in corrosive resistant/...container with a resistant inner liner.

Disposal

Dispose of contents/container in accordance with local/national regulation.

Physical and Chemical hazards

Oxidizing material. Organic or combustible material may catch fire in contact with it.

3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name:Nitric acid
Content(%):69~70
Chemical formula:HNO3
Chemicals No, Japan:1-394
CAS No.:7697-37-2
MW:63.01
ECNO:231-714-2

Ingredient name:Water
Content(%):Residual quantity of the ingredient mentioned above
Chemical formula:H2O
CAS No.:7732-18-5
MW:18
ECNO:231-791-2

4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical attention/advice if you feel unwell.
Immediately call a POISON CENTER or doctor/physician.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth. Do NOT induce vomiting.

Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures**Extinguishing media****Suitable extinguishing media**

In case of fire, use CO₂, water in large amounts.

Not combustible but enhances combustion of other substances.

Unsuitable extinguishing media

Foam.

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

Advice for firefighters**Specific fire-fighting measures**

Evacuate non-essential personnel to safe area.

Cool container with water spray.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.

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

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

6. Accidental release measures**Personnel precautions, protective equipment and emergency procedures**

Keep unauthorized personnel away.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Ventilate area after material pick up is complete.

Wear proper protective equipment.

PUBLIC SAFETY: Ventilate closed spaces before entering.

Environmental precautions

Avoid release to the rivers, lakes, ocean and groundwater.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

All equipment used when handling the product must be grounded.

Do NOT absorb in saw-dust or other combustible absorbents.

Preventive measures for secondary accident

Absorb spillage to prevent material-damage.

Collect spillage.

Stop leak if you can do it without risk.

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Prevent entry into waterways, sewers, basements or confined areas.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe vapors.

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Keep/Store away from clothing/combustible materials.

Exhaust/ventilator

Exhaust/ventilator should be available.

Safety treatments

Avoid contact with skin.

Avoid contact with eyes.

Avoid breathing vapor.

Safety Measures/Incompatibility

Take any precaution to avoid mixing with combustibles/incompatible materials.

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing or face protection.

Wear protective gloves and face protection.

Wear eye protection/face protection.

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities

Recommendation for storage

Store in a well-ventilated place. Keep container tightly closed.

Keep cool. Protect from sunlight.

Store locked up.

Incompatible storage condition

The product may corrode metal. Do not keep in a metal container.

Recommendation on container and packaging materials

Keep only in original container.

Store in corrosive resistant/...container with a resistant inner liner.

8. Exposure controls/personal protection

Control parameters

No control value data available in MHLW

Adopted value

(Nitric acid)

JSOH(1982) 2ppm; 5.2mg/m³

ACGIH(1992) TWA: 2ppm

STEL: 4ppm (URT & eye irr; dental erosion)

OSHA-PEL

(Nitric acid)

TWA 2ppm, 5mg/m³

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Wear positive pressure self-contained breathing apparatus (SCBA).

Hand protection

Wear protective gloves. Recommended material(s): viton

Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials.

Eye protection

Wear chemical safety goggle.

Wear eye/face protection.

Safety and Health measures

Wash ... thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wash contaminated clothing before reuse.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties

Appearance: Liquid

Color: Colorless

Odor: Irritant odor

Odor threshold: 0.75~2.50mg/m³

pH: pH ≤ 2 (Strong acidic)

Phase change temperature

Initial Boiling Point/Boiling point data N.A.

Melting point/Freezing point data N.A.

Decomposition temperature data N.A.

Flash point data N.A.

Auto-ignition temperature data N.A.

Explosive properties data N.A.

Vapor pressure data N.A.

Vapor density data N.A.

Specific gravity/Density: ca. 1.42 g/ml

Solubility

Solubility in water: Miscible

n-Octanol /water partition coefficient data N.A.

10. Stability and Reactivity

Reactivity

Runaway polymerization will not occur.

Chemical stability

Stable under normal storage/handling conditions.

When exposed to light it slowly becomes reddish.

Possibility of hazardous reactions

Decomposes on warming. This produces nitrogen oxides.

The substance is a strong oxidant. It reacts violently with combustible and reducing materials, such as turpentine, charcoal and alcohol.

The substance is a strong acid. It reacts violently with bases and is corrosive to metals.

This produces flammable/explosive gas.

Reacts violently with organic compounds.

Conditions to avoid

Contact with incompatible materials.

Heat. Light.

Incompatible materials

Bases, Reducing agents, Metals, Combustible substances

Hazardous decomposition products

Nitrogen oxides, Hydrogen gas

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Nitric acid) vapor : rat LC50=49 ppm/4hr (JSOH, 1982)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Nitric acid) human : severe (ACGIH 7th, 2001)

Serious eye damage /irritation

[GHS Cat. Japan, base data]

(Nitric acid) human : unrecoverable corneal opacity to blindness (ACGIH 7th, 2001)

No Allergenic and sensitizing effects data available

Germ cell mutagenicity

[GHS Cat. Japan, base data]

(Nitric acid)

Reverse-mutation assay in bacteria (Ames test) : Negative (SIDS, 2010 et al.)

No Carcinogenic effects data available

No reproductive toxicity data available

Delayed and immediate effects and also chronic effects from short- and long-term exposure

STOT

STOT-single exposure

[cat.1]

[Japan published data]

(Nitric acid) respiratory apparatus/system (SIDS, 2010)

STOT-repeated exposure

[cat.1]

[Japan published data]

(Nitric acid) respiratory apparatus/system; teeth (SIDS, 2010)

No Aspiration hazard data available

Additional data

There are no data available on the preparation itself.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Harmful to aquatic life

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

(Nitric acid) Fish (Gambusia affinis) LC50 = 72 mg/L/96hr (SIDS, 2010)

Water solubility

(Nitric acid) miscible (ICSC, 2006)

No Persistence and degradability data available

Bioaccumulative potential

(Nitric acid) log Pow=-0.21 (ICSC, 2006)

Additional information

There are no data available on the preparation itself.

13. Disposal considerations

Waste treatment methods

Avoid release to the environment (- if this is not the intended use).

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No, UN CLASS

UN number: 2031

UN proper shipping name: NITRIC ACID, other than red fuming, with more than 70% nitric acid

Transport hazard class(es): 8

Transport subsidiary risks: 5.1

Packing group: II

ERG GUIDE NO.: 157

15. Regulatory Information

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

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

Noxious Liquid ; Cat. Y

Nitric acid

Non Noxious Liquid ; Cat. OS

Water

US major regulations

TSCA

Nitric acid; Water

Other regulatory information

We are not able to check up the regulatory information in regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

GHS classification and labelling

Ox. Liq. 3: H272 May intensify fire; oxidizer

Corr. Met. 1: H290 May be corrosive to metals

Acute Tox. 1: H330 Fatal if inhaled

Skin Corr. 1: H314 Causes severe skin burns and eye damage

Eye Dam. 1: H318 Causes serious eye damage

STOT SE 1: H370 Causes damage to organs after single exposure

STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure

Aquatic Acute 3: H402 Harmful to aquatic life

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN

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Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2017 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

Supplier's data/information

NITE Chemical Risk Information Platform (NITE-CHRIP) <http://www.safe.nite.go.jp/japan/db.html>

GHS Classification Guidance for Enterprises 2013 Revised Edition (August, 2013,METI)

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2016).