Safety Data Sheet

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

   Product identifier:
   - Product name: Nitric acid SG:1.38(60%)
   - Product code (SDS NO): 5448E-2

Details of the supplier of the safety data sheet

   Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
   Address: 3-1, Honmachibashi, Chuo-ku,Osaka 540-0029,JAPAN
   Division: Safety Management Dept. of Chemicals
   Telephone number: +81-6-6946-8061
   FAX: +81-6-6946-1607
   e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

   GHS classification and label elements of the product
   Classification of the substance or mixture
   PHYSICAL AND CHEMICAL HAZARDS
   - 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 apparatus/system)
   - Specific target organ toxicity – repeated exposure: Category 1(respiratory apparatus/system; teeth)

   ENVIRONMENT HAZARDS
   - Hazardous to the aquatic environment (Acute): Category 3

   Label elements

   Signal word: Danger
   HAZARD STATEMENT
   - 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 only in original container.
   - Do not breathe dust/fume/gas/mist/vapors/spray.
   - In case of inadequate ventilation 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 eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response
Absorb spillage to prevent material damage.
Get medical advice/attention if you feel unwell.

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 in corrosive resistant/container with a resistant inner liner.

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

3. Composition/information on ingredients
Mixture/Substance selection:
Mixture
Ingredient name: Nitric acid
Content(%): 60
Chemical formula: HNO₃
Chemicals No., Japan: 1-394
CAS No.: 7697-37-2
MW: 63.01
ECNO: 231-714-2

Ingredient name: Water
Content(%): 40
Chemical formula: H₂O
CAS No.: 7732-18-5
MW: 18.02
ECNO: 231-791-2

Note: The figures shown above are not the specifications of the product.

4. First-aid measures
Descriptions of first-aid measures
General measures
Get medical attention/advice if you feel unwell.

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
Use appropriate extinguishing media suitable for surrounding facilities.
Specific hazards arising from the substance or mixture
Containers may explode when heated.
Fire may produce irritating, corrosive and/or toxic gases.
Advice for firefighters
Specific fire-fighting measures
Evacuate non-essential personnel to safe area.
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
Ventilate area until material pick up is complete.
Wear proper protective equipment.
Methods and materials for containment and cleaning up
Absorb spill with inert material (dry sand, earth, etc.), then place in a chemical waste container.
Preventive measures for secondary accident
Absorb spillage to prevent material damage.
Collect spillage.

7. Handling and storage
Precautions for safe handling
Preventive measures
(Exposure Control for handling personnel)
Do not breathe dust/fume/gas/mist/vapors/spray.
(Protective measures against fire and explosion)
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Exhaust/ventilator
Exhaust/ventilator should be available.
Safety treatments
Avoid contact with skin.
Avoid contact with eyes.
Safety Measures/Incompatibility
Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing or face protection.
Wear eye protection/face protection.
When using do not eat, drink or smoke.
Conditions for safe storage, including any incompatibilities
Recommendation for storage
Keep container tightly closed.
Store in a cool, dry place. Do not store in direct sunlight.
keep under lock and key.

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
Adopted value
(Nitric acid)
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.

Hand protection
Wear protective gloves.

Eye protection
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 to yellow
Odor data N.A.
pH data N.A.

Phase change temperature
Initial Boiling Point/Boiling point data N.A.
Boiling range 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.
Relative Vapor Density (Air=1) data N.A.
Specific gravity/Density: about 1.38 (g/ml)
Solubility
Solubility in water: Miscible
n-Octanol/water partition coefficient data N.A.

10. Stability and Reactivity
Reactivity
N.A.
Chemical stability
Turns brown on exposure to light.
Possibility of hazardous reactions
(Nitric acid)
Decomposes on warming. This produces toxic and irritating fumes and gases including 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 (hydrogen). Reacts violently with organic compounds. (ICSC 0183)
Conditions to avoid
Contact with incompatible materials.
Contact with fire source.
Incompatible materials
Bases, Reducing agents, Combustible materials, Metals, Organic compounds
Hazardous decomposition products
Nitrogen oxides, Hydrogen

11. Toxicological Information
Information on toxicological effects
Acute toxicity
Acute toxicity (Inhalation)
[GHS Cat. Japan, base data]
(Nitric acid)
mist: rat LC50=49 ppm/4 hr (JSOH, 1982)
Irritant properties
Skin corrosion/irritation
[GHS Cat. Japan, base data]
(Nitric acid)
human severe damage (ACGIH 7th, 2001)
Serious eye damage / irritation
[GHS Cat. Japan, base data]
(Nitric acid)
human non recoverable corneal opacity to blindness (ACGIH 7th, 2001)
No Allergenic and sensitizing effects data available
No Mutagenic effects data available
No Carcinogenic effects data available
No Teratogenic 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]
[GHS Cat. Japan, base data]
(Nitric acid)
respiratory apparatus (SIDS, 2010)
STOT-repeated exposure
[cat.1]
[GHS Cat. Japan, base data]
(Nitric acid)
respiratory apparatus; teeth (SIDS, 2010)
No Aspiration hazard data available

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=72mg/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)
No Mobility in soil data available
Ozone depleting chemical data not available

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.: 2031
Proper Shipping Name:
NITRIC ACID, other than red fuming, with more than 20% but less than 65% nitric acid
Class or division : 8
Packing group : II
IMDG Code (International Maritime Dangerous Goods Regulations)
UN No.: 2031
Proper Shipping Name:
NITRIC ACID, other than red fuming, with more than 20% but less than 65% nitric acid
Class or division : 8
Packing group : II
IATA Dangerous Goods Regulations
UN No.: 2031
Proper Shipping Name:
NITRIC ACID, other than red fuming, with more than 20% but less than 65% nitric acid
Class or division : 8
Hazard labels : Corrosive
Packing group : II
Special provisions No.: A212
Environmental hazards
MARPOL Annex III – Prevention of pollution by harmful substances
Marine pollutants (yes/no): no
MARPOL Annex V – Prevention of pollution by garbage discharge
Specific target organ toxicity – repeated exposure: cat.1 Nitric acid
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

15. Regulatory Information
Safety, health and environmental regulations/legislation specific for the substance or mixture
US major regulations
TSCA
Nitric acid; Water
Other regulatory information
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information
GHS classification and labelling
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 20th edit., 2017 UN Classification, labelling and packaging of substances and mixtures (table3-1 ECN06182012) 2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT) 2018 TLVs and BEIs (ACGIH) http://monographs.iarc.fr/ENG/Classification/index.php
Supplier’s data/information
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 2017).