

SAFETY DATA SHEET

Prepared according to GB/T 16483, GB/T 17519

Spent Nitric Acid

800010059297

Version 1.2

Revision Date 2023.08.23

Print Date 2023.08.30

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Spent Nitric Acid

Manufacturer or supplier's details

Supplier : SHELL EASTERN CHEMICALS (S)
A REGISTERED BUSINESS OF SHELL EASTERN
TRADING (PTE) LTD (UEN:198902087C)
9 North Buona Vista Drive , #07-01
The Metropolis Tower 1
Singapore 138588
Singapore

Telephone : +65 6384 8269
Telefax : +65 6384 8454
Contact for Safety Data Sheet : If you have any enquiries about the content of this SDS
please email sccmsds@shell.com 如果您有关于该SDS内容的
任何质询, 请发电邮联系 sccmsds@shell.com

Emergency telephone number : +86-532-83889090

Recommended use of the chemical and restrictions on use

Recommended use : Waste Material

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	liquid
Colour	brown
Odour	characteristic

GHS Classification

Corrosive to metals : Category 1
Skin corrosion : Category 1A
Serious eye damage : Category 1
Acute toxicity : Category 3
Carcinogenicity : Category 1B
Reproductive toxicity : Category 1B
Skin sensitisation : Category 1
Respiratory sensitisation : Category 1B

GHS label elements

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Hazard pictograms

:



Signal word

: Danger

Hazard statements

: PHYSICAL HAZARDS:
H290 May be corrosive to metals.
HEALTH HAZARDS:
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
Toxic if inhaled.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
ENVIRONMENTAL HAZARDS:
Not classified as an environmental hazard under GHS criteria.

Precautionary statements

:

Prevention:

P260 Do not breathe dust or mist.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 + P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other hazards which do not result in classification

None known.

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Physical and chemical hazards	May be corrosive to metals.
Health Hazards	Inhalation: Harmful if inhaled. May cause sensitisation by inhalation. Skin: Causes severe skin burns. Eyes: Causes serious eye damage. Ingestion: Harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Nitric acid	7697-37-2	Ox. Sol.2; H272 Met. Corr.1; H290 Skin Corr.1; H314 Eye Dam.1; H318 Acute Tox.3; H331	20
cobalt	7440-48-4	Acute Tox.4; H302 Acute Tox.1; H330 Eye Irrit.2; H319 Resp. Sens.1B; H334 Skin Sens.1; H317 Repr.1B; H360 Carc.1B; H350	2

For explanation of abbreviations see section 16.

4. FIRST-AID MEASURES

- If inhaled : Move to fresh air in case of accidental inhalation of vapours.
Call a physician or poison control centre immediately.
Administer oxygen if breathing is difficult or cyanosis is observed.
- In case of skin contact : Wash off immediately with plenty of water.
Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If needed, transport to the nearest medical facility for additional treatment.
Get medical attention immediately if irritation develops and persists.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.

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If swallowed

: In the unlikely event of ingestion, obtain medical attention immediately.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
Immediately give large quantities of water to drink.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

: Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Hazardous combustion products

: Nitrogen oxides (NO_x)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: Avoid inhaling vapour and/or mists and/or gas.
Ensure adequate ventilation.
Avoid contact with skin, eyes and clothing.

Environmental precautions

: Should not be released into the environment.
Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.
Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Methods and materials for containment and cleaning up

: Collect as much of the spill as possible with a suitable absorbent material.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Additional advice

: For disposal considerations see section 13.

7. HANDLING AND STORAGE

Handling

General Precautions

: Install appropriate equipment and wear appropriate personal protective equipment (see "8. Exposure control/personal protection").
Avoid contact with skin, eyes and clothing.

Advice on safe handling

: Risk of serious damage to the lungs (by inhalation).
Take care to avoid waste and spillage when weighing, loading and mixing the product.
Handle with extreme care.
Wear personal protective equipment.
Do not breathe vapours or spray mist.

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Do not get in eyes or mouth or on skin.
Do not get on skin or clothing.
Do not ingest.

Avoidance of contact : Strong bases
Powdered metals
Combustible material

Advice on protection against fire and explosion : Even when the product is not itself flammable, such vapours may be present as a result of operations involving a previously handled product, or faulty vapour recovery systems.
Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.

Product Transfer : This material is not expected to be a static accumulator.

Storage

Conditions for safe storage : Keep in a cool, well-ventilated place.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Nitric acid	7697-37-2	TWA	2 ppm	ACGIH
Nitric acid		STEL	4 ppm	ACGIH
Nitric acid		TWA	2 ppm 5 mg/m ³	OSHA Z-1
cobalt	7440-48-4	TWA (dust and fume)	0.1 mg/m ³	OSHA Z-1
cobalt		TWA (Thoracic particulate matter)	0.005 mg/m ³	ACGIH
cobalt		TWA (Inhalable particulate matter)	0.02 mg/m ³	ACGIH

Biological occupational exposure limits

No biological limit allocated.

Environmental exposure controls

General advice : Should not be released into the environment.
Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.

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Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Colour	: brown
Odour	: characteristic
pH	: < 2.5
Freezing point	: Data not available
Boiling point	: Data not available
Flash point	: Data not available
Vapour pressure	: Data not available
Density	: Data not available
Viscosity, kinematic	: Data not available

10. STABILITY AND REACTIVITY

Reactivity	: Stable under recommended storage conditions.
Chemical stability	: The product is chemically stable.
Possibility of hazardous reactions	: Hazardous polymerisation does not occur.
Incompatible materials	: Strong bases Powdered metals Combustible material
Hazardous decomposition products	: Nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	: Remarks: Based on available data, the classification criteria are not met.
Acute inhalation toxicity	: Remarks: Based on available data, the classification criteria are not met.

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Acute dermal toxicity

:

Remarks: Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Product:

Remarks: Causes skin burns.

Serious eye damage/eye irritation

Product:

Remarks: Causes serious eye damage.

Respiratory or skin sensitisation

Product:

Remarks: May cause an allergic skin reaction.

Germ cell mutagenicity

Product:

Genotoxicity in vitro

:

Remarks: Based on available data, the classification criteria are not met.

:

Remarks: Based on available data, the classification criteria are not met.

Germ cell mutagenicity-
Assessment

:

Contains no ingredient listed as a mutagen

Carcinogenicity

Product:

Remarks: May cause cancer.

Carcinogenicity -
Assessment

:

Category 1B

Material	GHS/CLP Carcinogenicity Classification
Water	No carcinogenicity classification.
Nitric acid	No carcinogenicity classification.
cobalt	Carcinogenicity Category 1B

Reproductive toxicity

Product:

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:
Remarks: May damage fertility. May damage the unborn child.

Reproductive toxicity -
Assessment : Category 1B

STOT - single exposure

Product:

Remarks: Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:

Remarks: Based on available data, the classification criteria are not met.

Aspiration toxicity

no data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish (Acute toxicity) :
Remarks: Based on available data, the classification criteria are not met.

Toxicity to crustacean (Acute toxicity) :
Remarks: Based on available data, the classification criteria are not met.

Toxicity to algae/aquatic plants (Acute toxicity) :
Remarks: Based on available data, the classification criteria are not met.

Toxicity to fish (Chronic toxicity) :
Remarks: Based on available data, the classification criteria are not met.

Toxicity to crustacean (Chronic toxicity) :
Remarks: Based on available data, the classification criteria are not met.

Toxicity to microorganisms (Acute toxicity) :
Remarks: Based on available data, the classification criteria are not met.

Persistence and degradability

Product:

Biodegradability : Remarks: Not readily biodegradable.

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Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Does not significantly accumulate in organisms.

Mobility in soil

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not dispose of with domestic refuse.
Do not dispose of with domestic refuse. Send to a licensed waste management company.
The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

14. TRANSPORT INFORMATION

National Regulations

International Regulations

Maritime transport in bulk according to IMO instruments

MARPOL Annex 1 rules apply for bulk shipments by sea.

Special precautions for user

Not applicable

15. REGULATORY INFORMATION

National regulatory information

Regulations on Safety Management of Hazardous Chemicals

Other international regulations

The components of this product are reported in the following inventories:

16. OTHER INFORMATION

Full text of H-Statements

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H272	May intensify fire; oxidizer.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H350	May cause cancer.
H360	May damage fertility or the unborn child.

Full text of other abbreviations

Acute Tox.	Acute toxicity
Carc.	Carcinogenicity
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
Met. Corr.	Corrosive to metals
Ox. Sol.	Oxidizing solids
Repr.	Reproductive toxicity
Resp. Sens.	Respiratory sensitisation
Skin Corr.	Skin corrosion
Skin Sens.	Skin sensitisation

Abbreviations and Acronyms

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations

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Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Further information

Other information : This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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