SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
WHS Regulations

Revision date 24-Jul-2024 **Revision Number** 1.01

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name Molybdenum AA Standard: 1000 µg/mL Mo in 1% NH4OH [100ml bottle]

Product Code(s) 5190-8297

Other means of identification

Chemical name
Pure substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Recommended use Reagents and Standards for Analytical Chemical Laboratory Use.

Uses advised against No information available.

Details of manufacturer or importer

Supplier

Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia

1800 802 402

For further information, please contact

Contact Point Product Safety Department

E-mail address pdl-msds_author@agilent.com

Emergency telephone number

Emergency telephone number CHEMTREC®: +(61)-290372994

Section 2: Hazard(s) identification

GHS Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

Label elements
Exclamation mark



Signal word
WARNING

Hazard statements
Causes skin irritation.
Causes serious eye irritation.

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling.
Wear protective gloves/clothing and eye/face protection.
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 ON SKIN: Wash with plenty of water and soap.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.

Other hazards which do not result in classification
No information available.

Section 3: Composition/information on ingredients

Chemical name	CAS No.	Weight-%
Ammonium hydroxide	1336-21-6	0 - 10%
Non-hazardous ingredients	Proprietary	Balance

Section 4: First aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Emergency telephone number Poisons Information Centre, Australia: 13 11 26
Poisons Information Centre, New Zealand: 0800 764 766

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

	Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms	May cause redness and tearing of the eyes. Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to doctors	Treat symptomatically.

Section 5: Firefighting measures

Suitable Extinguishing Media

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.

Special protective actions for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: Handling and storage, including how the chemical may be safely used

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before re-use.

General hygiene considerations Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.

Conditions for safe storage, including any incompatibilities

Storage Conditions Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA. Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Strong acids. Strong bases. Strong oxidising agents.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits

Chemical name	Australia	New Zealand	ACGIH TLV
Ammonium hydroxide 1336-21-6	TWA: 25 ppm TWA: 17 mg/m³ STEL: 35 ppm STEL: 24 mg/m³	TWA: 25 ppm TWA: 17 mg/m³ STEL: 35 ppm STEL: 24 mg/m³	TWA: 25 ppm STEL: 35 ppm

Chemical name	European Union	United Kingdom	Germany DFG
Ammonium hydroxide 1336-21-6	TWA: 20 ppm TWA: 14 mg/m³ STEL: 50 ppm STEL: 36 mg/m³	TWA: 25 ppm TWA: 18 mg/m³ STEL: 35 ppm STEL: 25 mg/m³	TWA: 20 ppm TWA: 14 mg/m³ Peak: 40 ppm Peak: 28 mg/m³

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Avoid contact with eyes. Wear safety glasses with side shields (or goggles). If splashes are likely to occur, wear safety glasses with side-shields.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

Hand protection The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374. Wear protective Neoprene™ gloves. Wear suitable gloves. Impervious gloves.

Respiratory protection Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance Liquid
Colour colourless
Odour Odourless.
Odour threshold No information available

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	0 °C	None known
Initial boiling point and boiling range	100 °C	None known

Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	23 hPa	@ 20°C
Relative vapour density	No data available	None known
Relative density	0.99821 g/cm3 at 20 °C	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Auto-ignition temperature	No data available	None known
Decomposition temperature	100 °C	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

VOC content	No information available
Particle characteristics	No information available

Section 10: Stability and reactivity

Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid None known based on information supplied.

Incompatible materials

Incompatible materials Strong acids. Strong bases. Strong oxidising agents.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

Section 11: Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
Skin contact	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Symptoms	Redness. May cause redness and tearing of the eyes.

Acute toxicity .

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	35,000.00 mg/kg
ATEmix (dermal)	99,999.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapour)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	99,999.00 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium hydroxide	= 350 mg/kg (Rat)	-	-

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes skin irritation.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye irritation.

Respiratory or skin sensitisation No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Section 12: Ecological information

Ecotoxicity

Aquatic ecotoxicity

Unknown aquatic toxicity 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Ammonium hydroxide	-	LC50: =8.2mg/L (96h, Pimephales promelas)	-	EC50: =0.66mg/L (48h, water flea) EC50: =0.66mg/L (48h, Daphnia pulex)

Terrestrial ecotoxicity There is no data for this product.

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Mobility

Mobility No information available.

Other adverse effects

Other adverse effects No information available.

This product does not contain any known or suspected endocrine disruptors.

Chemical name	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances
Ammonium hydroxide	-	-.

Section 13: Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not re-use empty containers.

See section 8 for more information

Section 14: Transport information

ADG Not regulated

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
No information available

Section 15: Regulatory information

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

National regulations

Australia

See section 8 for national exposure control parameters

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)
Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)
Poison Schedule Number 5

Australian Industrial Chemicals Introduction Scheme (AICIS)

Chemical name	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Ammonium hydroxide - 1336-21-6	Present	-

Illicit Drug Precursors/Reagents
This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

Major hazard (accident/incident planning) regulation
Verify that license requirements are met

Named hazardous chemicals

Chemical name	Threshold quantity (T)
Ammonium hydroxide - 1336-21-6	200 tonne TQ anhydrous, liquefied or solution;relative density <0.880 at 15°C in water;with >50% Ammonia

National pollutant inventory
Subject to reporting requirement

Chemical name	National pollutant inventory
Ammonium hydroxide - 1336-21-6	10 tonne/yr Threshold category 1 total

International Inventories

AIIC	Contact supplier for inventory compliance status.
NZIoC	Contact supplier for inventory compliance status.
TSCA	LGC, to the best of its ability, has confirmed that the chemical substances in this product are listed as “Active” in the EPA (Environmental Protection Agency) “TSCA Inventory Notification (Active-Inactive) Requirements Rule” (“the Final Rule”) of Feb 2019, as amended Feb 2021.”.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.

ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECI	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.

Legend:
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Any other relevant information

Revision date 24-Jul-2024

Revision Note

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend
SVHC: Substances of Very High Concern for Authorisation:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration
LD50: 50% Lethal Dose

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
Australian Industrial Chemicals Introduction Scheme (AICIS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Program
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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End of Safety Data Sheet