1 Identification

Product identifier

Product name: **Dimethylamine, 1-1.5M in diethyl ether**

Stock number: 20154
CAS Number:
124-40-3
Relevant identified uses of the substance or mixture and uses advised against.
Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com
Information Department: Health, Safety and Environmental Department
Emergency telephone number:
During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)


GHS02 Flame

Flam. Liq. 1 H224 Extremely flammable liquid and vapour.


GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.


GHS05 Corrosion

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


GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.
Hazards not otherwise classified No information known.

Label elements
GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)
Hazard pictograms


GHS02 GHS05 GHS06

Signal word Danger
Hazard statements
H224 Extremely flammable liquid and vapour.
H302 Harmful if swallowed.
H331 Toxic if inhaled.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
Precautionary statements
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
WHMIS classification
B2 - Flammable liquid
D2B - Toxic material causing other toxic effects
E - Corrosive material

Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)

Health (acute effects) = 2
Flammability = 4
Physical Hazard = 2

Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.

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Product name: Dimethylamine, 1-1.5M in diethyl ether

(Contd. of page 1)

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances
CAS# Description:
124-40-3 Dimethylamine, 1-1.5M in diethyl ether

4 First-aid measures

Description of first aid measures
After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing Seek medical treatment.
Information for doctor
Most important symptoms and effects, both acute and delayed No further relevant information available.
Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents
Carbon dioxide
Fire-extinguishing powder
Foam
Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Ammonia
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.
Methods and material for containment and cleaning up:
Keep away from ignition sources.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Prevention of secondary hazards: Keep away from ignition sources.
Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Keep away from heat and direct sunlight.
Ensure good ventilation at the workplace.
Open and handle container with care.
Information about protection against explosions and fires:
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.
Keep ignition sources away.
Do not distill to dryness.
Explosive peroxides may form, handle container cautiously.

Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and receptacles: Store in a cool location.
Information about storage in one common storage facility: Store away from oxidizing agents.
Further information about storage conditions:
Store in cool, dry conditions in well sealed containers.
Protect from heat and direct sunlight.
Avoid contact with air/oxygen (formation of peroxide).
Check container pressure periodically to prevent explosive peroxides.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Components with limit values that require monitoring at the workplace:

Dimethylamine

	ppm
ACGIH TLV	5; 15-STEL; A4
Belgium TWA	10
Denmark TWA	10
Finland TWA	10 (skin)
France TWA	10

(Contd. on page 3)

Product name: Dimethylamine, 1-1.5M in diethyl ether

(Contd. of page 2)

Germany TWA 2
Hungary TWA 1; 2-STEL (skin)
Ireland TWA 10
Netherlands TWA 1
Russia TWA 10; 1-STEL (skin)
Switzerland TWA 10; 20-STEL
United Kingdom TWA 10
USA PEL 10

Diethyl ether
ppm
ACGIH TLV 400; 500-STEL
Austria MAK 400
Belgium TWA 400; 500-STEL
Denmark TWA 400
Finland TWA 400; 500-STEL
France VME 400; 500-VLE
Germany MAK 400
Hungary TWA 300; 600-STEL (skin)
Japan OEL 400
Korea TLV 400; 500-STEL
Netherlands MAC-TGG 400
Norway TWA 200
Poland TWA 300 mg/m3; 1500 mg/m3-STEL
Russia TWA 400; 300 mg/m3-STEL
Switzerland MAK-W 400; 800-KZG-W
United Kingdom TWA 400; 500-STEL
USA PEL 400

Control parameters

Components with limit values that require monitoring at the workplace:

124-40-3 Dimethylamine, 1-1.5M in diethyl ether (100.0%)

PEL (USA)	Long-term value: 18 mg/m³, 10 ppm
REL (USA)	Long-term value: 18 mg/m³, 10 ppm
TLV (USA)	Short-term value: 27.6 mg/m³, 15 ppm Long-term value: 9.2 mg/m³, 5 ppm NIC-DSEN
WEEL (USA)	Short-term value: 3 ppm Long-term value: 1 ppm
EL (Canada)	Short-term value: 15 ppm Long-term value: 5 ppm
EV (Canada)	Short-term value: 15 ppm Long-term value: 5 ppm

Additional information: No data

Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.
Breathing equipment: Use suitable respirator when high concentrations are present.
Protection of hands:
Impervious gloves
Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.
Eye protection: Safety glasses
Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:

Form:	Liquid
Color:	Colorless
Odor:	Ether-like
Odor threshold:	Not determined.
pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Flash point:	< 0 °C (< 32 °F)
Flammability (solid, gaseous)	Not determined.
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto igniting:	Not determined.
Danger of explosion:	May form explosive peroxides. Do not distill to dryness.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not determined
Density:	Not determined
Relative density	Not determined.
Vapor density	Not determined.

(Contd. on page 4)

Product name: Dimethylamine, 1-1.5M in diethyl ether

(Contd. of page 3)

Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Partly soluble
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity May form explosive peroxides.
Chemical stability Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions
Reacts with oxidizing agents
Reacts violently with interhalogens.
May form explosive peroxides.
Conditions to avoid No further relevant information available.
Incompatible materials:
Oxidizing agents
Halogens
Interhalogens
Sulfur
Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Ammonia

11 Toxicological information

Information on toxicological effects
Acute toxicity: No effects known.

LD/LC50 values that are relevant for classification:

Oral	LD50	698 mg/kg (rat)
Inhalative	LC50/4H	4540 mg/m3/4H (rat)

Skin irritation or corrosion: Irritant to skin and mucous membranes.
Eye irritation or corrosion: Causes serious eye irritation.
Sensitization: No sensitizing effects known.
Germ cell mutagenicity: No effects known.
Carcinogenicity:
ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.
Reproductive toxicity: No effects known.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: May cause respiratory irritation.
Aspiration hazard: No effects known.
Subacute to chronic toxicity: No effects known.
Subacute to chronic toxicity:
Diethyl ether is a depressant of the central nervous system and is capable of causing intoxication, drowsiness, stupor and unconsciousness. Severe exposure may cause respiratory failure and death. On contact it may irritate the eyes.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12 Ecological information

Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Additional ecological information:
General notes:
Do not allow material to be released to the environment without proper governmental permits.
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.
Avoid transfer into the environment.
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation Consult state, local or national regulations to ensure proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number	
DOT, IMDG, IATA	UN2924
UN proper shipping name	
DOT	Flammable liquids, corrosive, n.o.s. (dimethylamine in diethyl ether)
IMDG, IATA	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (dimethylamine in diethyl ether)
Transport hazard class(es)	
DOT	

Class	3 Flammable liquids.

(Contd. on page 5)

Product name: Dimethylamine, 1-1.5M in diethyl ether

(Contd. of page 4)

Label	3+8
Class	3 (FC) Flammable liquids
Label	3+8
IMDG, IATA	

Class	3 Flammable liquids.
Label	3+8
Packing group	
DOT, IMDG, IATA	I
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Flammable liquids
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT	
Marine Pollutant (DOT):	No
Item:	
UN "Model Regulation":	UN2924, Flammable liquids, corrosive, n.o.s. (dimethylamine in diethyl ether), 3 (8), I

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)
Hazard pictograms

GHS02 GHS05 GHS06

Signal word Danger
Hazard statements
H224 Extremely flammable liquid and vapour.
H302 Harmful if swallowed.
H331 Toxic if inhaled.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
Precautionary statements
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

SARA Section 313 (specific toxic chemical listings)	
124-40-3	Dimethylamine, 1-1.5M in diethyl ether

California Proposition 65
Prop 65 - Chemicals known to cause cancer Substance is not listed.
Prop 65 - Developmental toxicity Substance is not listed.
Prop 65 - Developmental toxicity, female Substance is not listed.
Prop 65 - Developmental toxicity, male Substance is not listed.
Information about limitation of use: For use only by technically qualified individuals.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department
Date of preparation / last revision 11/23/2015 / -
Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)