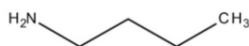


MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
:
EC Index-No. : 612-005-00-0
EC-No. : 203-699-2
CAS-No. : 109-73-9
Product code : 00065
Chemical structure :



Synonyms : 1-Aminobutane

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

SPAN LAB
UNIT NO. 14, SKY INDUSTRIAL ESTATE, WALIV, VASAI (E)
401208 Mumbai - INDIA
PH: +91 9820509929
info@spanlab.in www.spanlab.in

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, H225
Category 2
Acute toxicity (oral), H302
Category 4
Acute toxicity (dermal), H312
Category 4
Acute toxicity (inhal.), H332
Category 4
Skin corrosion/irritation, H314

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Category 1A

Full text of H statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11

Xn; R20/21/22

C; R35

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS05

GHS07

Signal word (CLP) : Danger

Hazard statements (CLP) : H225 - Highly flammable liquid and vapour.
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER/doctor

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : n-BUTYLAMINE AR
CAS-No. : 109-73-9
EC-No. : 203-699-2
EC Index-No. : 612-005-00-0

Full text of R- and H-statements: see section 16

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3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. Specific treatment is urgent (see supplemental first aid instruction on this label).
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Immediately call a POISON CENTER/doctor. Specific measures (see supplemental first aid instruction on this label). Wash with plenty of water/.... Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Specific treatment (see supplemental first aid instruction on this label).
First-aid measures after ingestion	: Rinse mouth. Call a POISON CENTER/doctor if you feel unwell. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Specific treatment (see supplemental first aid instruction on this label).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: Corrosive to the respiratory tract.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: dry chemical powder, alcohol-resistant foam, carbon dioxide (CO ₂).
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Highly flammable liquid and vapour.
Explosion hazard	: May form flammable/explosive vapour-air mixture.

5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.
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6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	: Use personal protective equipment as required.
Emergency procedures	: Stop release.

6.2. Environmental precautions

Avoid release to the environment.

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6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Collect spillage. On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling : No open flames. No smoking. Use only non-sparking tools. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact during pregnancy/while nursing.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Comply with applicable regulations.
Storage conditions : Keep in fireproof place. Keep container tightly closed.
Incompatible materials : Heat sources.
Packaging materials : Do not store in corrodable metal.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Hand protection : protective gloves
Eye protection : Chemical goggles or face shield
Skin and body protection : Wear suitable protective clothing
Respiratory protection : [In case of inadequate ventilation] wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Molecular mass : 73.14 g/mol
Colour : Clear Colorless.
Odour : ammonia odour.
Odour threshold : 0.08 ppm
pH : 13

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Relative evaporation rate (butylacetate=1)	: 7.3
Melting point	: -49.1 °C
Freezing point	: No data available
Boiling point	: 77.1 °C
Flash point	: -120 °C
Auto-ignition temperature	: 3120 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Extremely flammable Highly flammable liquid and vapour.
Vapour pressure	: 82 mm Hg at 20C
Relative vapour density at 20 °C	: 2.5
Relative density	: No data available
Density	: 0.74 g/cm ³
Solubility	: Water: Miscible in water
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.017 - 0.098 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

10.2. Chemical stability

Highly flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Open flame. Direct sunlight.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

May release flammable gases. Thermal decomposition generates : Corrosive vapours.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Oral: Harmful if swallowed. Dermal: Harmful in contact with skin. Inhalation: Harmful if inhaled.
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 13
Serious eye damage/irritation	: Serious eye damage, category 1, implicit pH: 13
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
Additional information	: Corrosive to the respiratory tract.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Harmful if swallowed. Harmful in contact with skin.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

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12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : 1125
UN-No. (IMDG) : 1125
UN-No. (IATA) : 1125
UN-No. (ADN) : 1125
UN-No. (RID) : 1125

14.2. UN proper shipping name

Proper Shipping Name (ADR) : N-BUTYLAMINE
Proper Shipping Name (IMDG) : n-BUTYLAMINE
Proper Shipping Name (IATA) : n-Butylamine
Proper Shipping Name (ADN) : N-BUTYLAMINE
Proper Shipping Name (RID) : n-BUTYLAMINE
Transport document description (ADR) : UN 1125 N-BUTYLAMINE, 3 (8), II, (D/E)
Transport document description (IMDG) : UN 1125 n-BUTYLAMINE, 3 (8), II (-9°C c.c.)
Transport document description (IATA) : UN 1125 n-Butylamine, 3 (8), II
Transport document description (ADN) : UN 1125 N-BUTYLAMINE, 3 (8), II
Transport document description (RID) : UN 1125 n-BUTYLAMINE, 3 (8), II

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 3 (8)
Danger labels (ADR) : 3, 8



IMDG

Transport hazard class(es) (IMDG) : 3 (8)
Danger labels (IMDG) : 3, 8



IATA

Transport hazard class(es) (IATA) : 3 (8)

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Hazard labels (IATA) : 3, 8



ADN

Transport hazard class(es) (ADN) : 3 (8)

Danger labels (ADN) : 3, 8



RID

Transport hazard class(es) (RID) : 3 (8)

Danger labels (RID) : 3, 8



14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : II

Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : FC

Limited quantities (ADR) : 1I

Excepted quantities (ADR) : E2

Packing instructions (ADR) : P001, IBC02

Mixed packing provisions (ADR) : MP19

Portable tank and bulk container instructions (ADR) : T7

Portable tank and bulk container special provisions (ADR) : TP1

Tank code (ADR) : L4BH

Vehicle for tank carriage : FL

Transport category (ADR) : 2

Special provisions for carriage - Operation (ADR) : S2, S20

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Hazard identification number (Kemler No.) : 338

Orange plates :



Tunnel restriction code (ADR) :

D/E

EAC code :

•2WE

APP code :

A(fl)

- Transport by sea

Limited quantities (IMDG) :

1 L

Excepted quantities (IMDG) :

E2

Packing instructions (IMDG) :

P001

IBC packing instructions (IMDG) :

IBC02

Tank instructions (IMDG) :

T7

Tank special provisions (IMDG) :

TP1

EmS-No. (Fire) :

F-E

EmS-No. (Spillage) :

S-C

Stowage category (IMDG) :

B

Stowage and handling (IMDG) :

SW2

Flash point (IMDG) :

-9°C c.c.

MFAG-No

: 132

- Air transport

PCA Excepted quantities (IATA) :

E2

PCA Limited quantities (IATA) :

Y340

PCA limited quantity max net quantity (IATA) :

0.5L

PCA packing instructions (IATA) :

352

PCA max net quantity (IATA) :

1L

CAO packing instructions (IATA) :

363

CAO max net quantity (IATA) :

5L

ERG code (IATA) :

3C

- Inland waterway transport

Classification code (ADN) :

FC

Limited quantities (ADN) :

1 L

Excepted quantities (ADN) :

E2

Carriage permitted (ADN) :

T

Equipment required (ADN) :

PP, EP, EX, A

Ventilation (ADN) :

VE01

Number of blue cones/lights (ADN) :

1

- Rail transport

Classification code (RID) :

FC

Limited quantities (RID) :

1L

Excepted quantities (RID) :

E2

Packing instructions (RID) :

P001, IBC02

Mixed packing provisions (RID) :

MP19

Portable tank and bulk container instructions (RID) :

T7

Portable tank and bulk container special provisions (RID) :

TP1

Tank codes for RID tanks (RID) :

L4BH

Transport category (RID) :

2

Colis express (express parcels) (RID) :

CE7

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Hazard identification number (RID) : 338

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

n-BUTYLAMINE AR is not on the REACH Candidate List

n-BUTYLAMINE AR is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 1, low hazard to water (Classification according to AwSV; ID No. 44)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

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Full text of R-, H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Flam. Liq. 2	Flammable liquids, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.
R11	Highly flammable
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R35	Causes severe burns
C	Corrosive
F	Highly flammable
Xn	Harmful

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product