

MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form	: Substance
	:
CAS-No.	: 75-64-9
Product code	: 0065A
Chemical structure	: $(\text{CH}_3)_3\text{CNH}_2$
Synonyms	: 2-Amino-2-methylpropane

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
Use of the substance/mixture	: Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, Category 2	H225
Skin corrosion/irritation, Category 1A	H314
Acute toxicity (inhal.), Category 4	H332
Acute toxicity (oral), Category 4	H302

Full text of H statements : see section 16

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

F; C; T; R11-20/22-35

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+H332 - Harmful if swallowed 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.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
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 : tert-BUTYLAMINE FOR SYNTHESIS

CAS-No. : 75-64-9

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

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.

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First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Immediately call a POISON CENTER/doctor.
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.
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.

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

Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: Harmful if inhaled.
Symptoms/effects after ingestion	: Harmful if swallowed.

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 extinguishing media containing water.

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	: Avoid contact with skin, eyes and clothing.
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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.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Clean up immediately by sweeping or vacuum.
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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.

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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.

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	: 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 odor.
Odour threshold	: No data available
pH	: 12.1 at 100 g/l at 25 °C
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -67 °C
Freezing point	: No data available
Boiling point	: 46 °C
Flash point	: -38 °C
Auto-ignition temperature	: 380 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Extremely Flammable Highly flammable liquid and vapour.
Vapour pressure	: 392.9 hPa at 20 °C

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Relative vapour density at 20 °C	: 2.53
Relative density	: No data available
Density	: 0.696 g/cm ³
Solubility	: Water: Completely soluble
Log Pow	: 0.4
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.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Inhalation: Harmful if inhaled. Oral: Harmful if swallowed.

Skin corrosion/irritation : Causes severe skin burns and eye damage.

pH: 12.1 at 100 g/l at 25 °C

Serious eye damage/irritation : Serious eye damage, category 1, implicit

pH: 12.1 at 100 g/l at 25 °C

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

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STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

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Log Pow	0.4

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

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) : 2734
UN-No. (IMDG) : 2734
UN-No. (IATA) : 2734
UN-No. (ADN) : 2734
UN-No. (RID) : 2734

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14.2. UN proper shipping name

Proper Shipping Name (ADR)	: AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. / POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.
Proper Shipping Name (IMDG)	: AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.
Proper Shipping Name (IATA)	: Amines, liquid, corrosive, flammable, n.o.s.
Proper Shipping Name (ADN)	: AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.
Proper Shipping Name (RID)	: AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.
Transport document description (ADR)	: UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S. / POLYAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S., 8 (3), I, (D/E)
Transport document description (IMDG)	: UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S., 8 (3), I
Transport document description (IATA)	: UN 2734 Amines, liquid, corrosive, flammable, n.o.s., 8 (3), I
Transport document description (ADN)	: UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S., 8 (3), I
Transport document description (RID)	: UN 2734 AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S., 8 (3), I

14.3. Transport hazard class(es)

ADR

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



IMDG

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



IATA

Transport hazard class(es) (IATA)	: 8 (3)
Hazard labels (IATA)	: 8, 3



ADN

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



RID

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



14.4. Packing group

Packing group (ADR) : I

Packing group (IMDG) : I

Packing group (IATA) : I

Packing group (ADN) : I

Packing group (RID) : I

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) : CF1

Special provisions (ADR) : 274

Limited quantities (ADR) : 0

Excepted quantities (ADR) : E0

Packing instructions (ADR) : P001

Mixed packing provisions (ADR) : MP8, MP17

Portable tank and bulk container instructions (ADR) : T14

Portable tank and bulk container special provisions (ADR) : TP2, TP27

Tank code (ADR) : L10BH

Vehicle for tank carriage : FL

Transport category (ADR) : 1

Special provisions for carriage - Operation (ADR) : S2, S14

Hazard identification number (Kemler No.) : 883

Orange plates :



Tunnel restriction code (ADR) : D/E

EAC code : •2W

APP code : A(fl)

- Transport by sea

Special provisions (IMDG) : 274

Packing instructions (IMDG) : P001

Tank instructions (IMDG) : T14

Tank special provisions (IMDG) : TP2, TP27

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-C

Stowage category (IMDG) : A

Segregation (IMDG) : SG35

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Properties and observations (IMDG) : Colourless to yellowish flammable liquids or solutions with a pungent odour. Miscible with water. When involved in a fire, evolve toxic gases. Corrosive to most metals, especially to copper and its alloys. Reacts violently with acids. Cause burns to skin, eyes and mucous membranes.

MFAG-No : 132

- Air transport

PCA Excepted quantities (IATA) : E0
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : 850
PCA max net quantity (IATA) : 0.5L
CAO packing instructions (IATA) : 854
CAO max net quantity (IATA) : 2.5L
ERG code (IATA) : 8F

- Inland waterway transport

Classification code (ADN) : CF1
Special provisions (ADN) : 274
Limited quantities (ADN) : 0
Excepted quantities (ADN) : E0
Equipment required (ADN) : PP, EP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 1

- Rail transport

Classification code (RID) : CF1
Special provisions (RID) : 274
Limited quantities (RID) : 0
Excepted quantities (RID) : E0
Packing instructions (RID) : P001
Mixed packing provisions (RID) : MP8, MP17
Portable tank and bulk container instructions (RID) : T14
Portable tank and bulk container special provisions (RID) : TP2, TP27
Tank codes for RID tanks (RID) : L10BH
Special provisions for RID tanks (RID) : TU38, TE22
Transport category (RID) : 1
Hazard identification number (RID) : 883

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

tert-BUTYLAMINE FOR SYNTHESIS is not on the REACH Candidate List

tert-BUTYLAMINE FOR SYNTHESIS is not on the REACH Annex XIV List

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15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 2, significant hazard to water (Classification according to AwSV; ID No. 1510)

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

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

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

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.
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.
F	Highly flammable

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