

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Reference number: 6350D Issue date: 6/11/2024 Revision date: 6/11/2024 Supersedes version of: 4/9/2015 Version: 1.0

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

1.1. Product identifier

Product form : Substance

Trade name : TRIBUTYLAMINE FOR SYNTHESIS

 EC-No.
 : 203-058-7

 CAS-No.
 : 102-82-9

 Product code
 : 6350D

 Type of product
 : Alicyclic amine

 Formula
 : C12H27N

Chemical structure : H₃C \ N CH₃

Synonyms : Tri-n-butylamine, N,N-Dibutylbutan-1-amine

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

Use of the substance/mixture : Solvents

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT.LTD.

107 Wode House Road, Jehangir Villa, Colaba

400005 Mumbai

INDIA

T +91 22 6663 6663, F +91 22 6663 6699 <u>info@lobachemie.com</u>, <u>www.lobachemie.com</u>

1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity (oral), Category 4 H302
Acute toxicity (dermal), Category 1 H310
Acute toxicity (inhalation:vapour) Category 1 H330
Skin corrosion/irritation, Category 2 H315

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

Adverse physicochemical, human health and environmental effects

Fatal in contact with skin. Fatal if inhaled. Harmful if swallowed. Causes skin irritation.

2.2. Label elements

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

Hazard pictograms (CLP)



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Signal word (CLP) : Danger

Hazard statements (CLP) : H302 - Harmful if swallowed.

H310+H330 - Fatal in contact with skin or if inhaled.

H315 - Causes skin irritation.

Precautionary statements (CLP) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

P262 - Do not get in eyes, on skin, or on clothing.

P280 - Wear protective clothing, eye protection, face protection, protective gloves.
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P302+P352+P310 - IF ON SKIN: Wash with plenty of water. Immediately call a POISON

CENTER or doctor.

P304+P340+P310 - IF INHALED: Remove person to fresh air and keep comfortable for

breathing. Immediately call a POISON CENTER or doctor.

Nordic countries regulation

Denmark

MAL code : 00-6 (Executive Order No. 301 from 1993)

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
TRIBUTYLAMINE	CAS-No.: 102-82-9 EC-No.: 203-058-7	100

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial

respiration if necessary. If you feel unwell, seek medical advice. Call a physician

immediately.

First-aid measures after skin contact : Gently wash with plenty of soap and water. Wash skin with plenty of water. Take off

immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with

water for several minutes. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth out with water. If you feel unwell, seek medical advice. Rinse mouth. Call a

poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation : Fatal if inhaled.

Symptoms/effects after skin contact : Toxic in contact with skin. Causes skin irritation. Irritation.

Symptoms/effects after eye contact : None under normal conditions.

Symptoms/effects after ingestion : Harmful if swallowed

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

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2). Water spray. Dry

powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.

Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper

protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters.

Absorb spillage to prevent material damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Evacuate unnecessary personnel. Only qualified personnel equipped with suitable

 $protective\ equipment\ may\ intervene.\ Do\ not\ breathe\ dust/fume/gas/mist/vapours/spray.$

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Use personal protective

equipment as required. For further information refer to section 8: "Exposure

controls/personal protection".

Emergency procedures : Stop release. Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.

Methods for cleaning up : Take up liquid spill into absorbent material. 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.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapours/spray.

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Hygiene measures : Do no

: Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling. Wash contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Store in original container. Keep container tightly closed. Store in a dry place. Protect from

moisture. Store locked up. Store in a well-ventilated place.

Packaging materials : Store always product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):







8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear a mask

Hand protection:

Protective gloves

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8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask. [In case of inadequate ventilation] wear respiratory protection.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid Colour : Pale yellow. Appearance Clear liquid. 185.36 g/mol Molecular mass : amine like. Odour : Not available Odour threshold : Not applicable Melting point Freezing point : -70 °C Boiling point : 216 °C Flammability : Non flammable. Lower explosion limit : 1.4 vol % Upper explosion limit : 6 vol %

Flash point : 63 °C (closed cup)

Auto-ignition temperature : 210 °C

Decomposition temperature : Not available

pH : 10.6 (0.1 g/l at 25 °C) Viscosity, kinematic : 1.735 mm²/s Viscosity, dynamic : 1.35 cP at 25 °C

Solubility : Water: 50 mg/l at 20 °C - Sparingly miscible in water

Ethanol: Miscible Ether: Miscible Acetone: Miscible Not available

Partition coefficient n-octanol/water (Log Kow) : Not available Partition coefficient n-octanol/water (Log Pow) : 4.4 – 4.6

Vapour pressure : 0.3 mm Hg at 20°C
Vapour pressure at 50°C : Not available
Density : 0.7782 g/cm³ at 20 °C

Relative density : Not available
Relative vapour density at 20°C : 6.39 (Air = 1)
Particle characteristics : Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Refractive index : 1.4299 at 20 °C/D

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Overheating. Heat.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Harmful if swallowed. Acute toxicity (dermal) Fatal in contact with skin.

Acute toxicity (inhalation) : Inhalation:vapour: Fatal if inhaled.

Skin corrosion/irritation : Causes skin irritation.

pH: 10.6 (0.1 g/l at 25 °C)

Serious eye damage/irritation : Not classified

pH: 10.6 (0.1 g/l at 25 °C)

Respiratory or skin sensitisation : Not classified Germ cell mutagenicity : Not classified : Not classified Carcinogenicity Reproductive toxicity : Not classified STOT-single exposure Not classified : Not classified STOT-repeated exposure Aspiration hazard : Not classified

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Viscosity, kinematic 1.735 mm²/s

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Potential adverse human health effects and

symptoms

: Harmful if swallowed, Toxic in contact with skin.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse

effects in the environment.

Hazardous to the aquatic environment, short-term

Not classified

Hazardous to the aquatic environment, long-term

: Not classified

(chronic)

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12.2. Persistence and degradability

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Persistence and degradability Rapidly degradable

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

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

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. Disposal must be done

according to official regulations.

Additional information : Do not re-use empty containers. Ecological information : Hazardous waste due to toxicity.

SECTION 14: Transport information

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

14.1. UN number or ID number

 UN-No. (ADR)
 : UN 2542

 UN-No. (IMDG)
 : UN 2542

 UN-No. (IATA)
 : UN 2542

 UN-No. (ADN)
 : UN 2542

 UN-No. (RID)
 : UN 2542

14.2. UN proper shipping name

Proper Shipping Name (ADR) : TRIBUTYLAMINE
Proper Shipping Name (IMDG) : TRIBUTYLAMINE
Proper Shipping Name (IATA) : Tributylamine
Proper Shipping Name (ADN) : TRIBUTYLAMINE
Proper Shipping Name (RID) : TRIBUTYLAMINE

Transport document description (ADR)

Transport document description (IMDG)

Transport document description (IMDG)

Transport document description (IATA)

Transport document description (ADN)

Transport document description (RID)

Transport document description (RID)

UN 2542 TRIBUTYLAMINE, 6.1, II

UN 2542 TRIBUTYLAMINE, 6.1, II

UN 2542 TRIBUTYLAMINE, 6.1, II

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14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 6.1
Danger labels (ADR) : 6.1

6

IMDG

Transport hazard class(es) (IMDG) : 6.1
Danger labels (IMDG) : 6.1

6

IATA

Transport hazard class(es) (IATA) : 6.1
Danger labels (IATA) : 6.1



ADN

Transport hazard class(es) (ADN) : 6.1 Danger labels (ADN) : 6.1



RID

Transport hazard class(es) (RID) : 6.1
Danger labels (RID) : 6.1

.



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) : T1
Limited quantities (ADR) : 100ml

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Excepted quantities (ADR) : E4

Packing instructions (ADR) : P001, IBC02
Mixed packing provisions (ADR) : MP15
Portable tank and bulk container instructions (ADR) : T7
Portable tank and bulk container special provisions : TP2

(ADR)

Tank code (ADR) : L4BH
Tank special provisions (ADR) : TU15, TE19
Vehicle for tank carriage : AT

Transport category (ADR) : 2

Special provisions for carriage - Loading, unloading : CV13, CV28

and handling (ADR)

Special provisions for carriage - Operation (ADR) : S9, S19 Hazard identification number (Kemler No.) : 60

Orange plates :

60 2542

Tunnel restriction code (ADR) : D/E EAC code : 3X

Transport by sea

Limited quantities (IMDG) : 100 ml Excepted quantities (IMDG) E4 Packing instructions (IMDG) P001 IBC packing instructions (IMDG) IBC02 Tank instructions (IMDG) T7 Tank special provisions (IMDG) TP2 EmS-No. (Fire) · F-A EmS-No. (Spillage) : S-A Stowage category (IMDG) : A

Properties and observations (IMDG) : Colourless, combustible liquid with an amine odour. Immiscible with water. When involved in

a fire, evolves toxic gases. Toxic if swallowed, by skin contact or by inhalation.

MFAG-No : 153

Air transport

PCA Excepted quantities (IATA) : E4 PCA Limited quantities (IATA) : Y641 PCA limited quantity max net quantity (IATA) : 1L PCA packing instructions (IATA) : 654 PCA max net quantity (IATA) : 5L CAO packing instructions (IATA) : 662 CAO max net quantity (IATA) : 60L ERG code (IATA) : 6L

Inland waterway transport

Classification code (ADN) : T1
Special provisions (ADN) : 802
Limited quantities (ADN) : 100 ml
Excepted quantities (ADN) : E4

Equipment required (ADN) : PP, EP, TOX, A

Ventilation (ADN) : VE02 Number of blue cones/lights (ADN) : 2

Rail transport

Classification code (RID) : T1
Limited quantities (RID) : 100ml
Excepted quantities (RID) : E4
Packing instructions (RID) : P001, IBC02
Mixed packing provisions (RID) : MP15
Portable tank and bulk container instructions (RID) : T7

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Portable tank and bulk container special provisions : TP:

(RID)

Tank codes for RID tanks (RID) : L4BH Special provisions for RID tanks (RID) : TU15 Transport category (RID) : 2

Special provisions for carriage - Loading, unloading : CW13, CW28, CW31

and handling (RID)

Colis express (express parcels) (RID) : CE5 Hazard identification number (RID) : 60

14.7. Maritime transport in bulk according to IMO instruments

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

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)	
Reference code	Applicable on
3(b)	TRIBUTYLAMINE FOR SYNTHESIS

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 594).

Chemicals Prohibition Ordinance (ChemVerbotsV) : This product is subject to ChemVerbotsV Annex 2 Entry 1. The following requirements must be observed: authorization requirement (according to § 6 paragraph 1 sentence 1), basic

requirements for carrying out the delivery (according to § 8 paragraph 1, 3 and 4), identification and documentation (according to § 9 paragraph 1 to 3) and exclusion of the

shipping route (according to § 10).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

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Netherlands

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

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen – : The

: The substance is not listed

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

Denmark

MAL code : 00-6 (Executive Order No. 301 from 1993)

Class for fire hazard : Class III-1 Store unit : 50 liter

Classification remarks : Flammable according to the Danish Ministry of Justice; Emergency management guidelines

for the storage of flammable liquids must be followed

Danish National Regulations : 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 chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acr	Abbreviations and acronyms:		
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways		
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road		
ATE	Acute Toxicity Estimate		
BCF	Bioconcentration factor		
BLV	Biological limit value		
BOD	Biochemical oxygen demand (BOD)		
COD	Chemical oxygen demand (COD)		
DMEL	Derived Minimal Effect level		
DNEL	Derived-No Effect Level		
EC-No.	European Community number		
EC50	Median effective concentration		
EN	European Standard		
IARC	International Agency for Research on Cancer		
IATA	International Air Transport Association		
IMDG	International Maritime Dangerous Goods		
LC50	Median lethal concentration		
LD50	Median lethal dose		
LOAEL	Lowest Observed Adverse Effect Level		
NOAEC	No-Observed Adverse Effect Concentration		
NOAEL	No-Observed Adverse Effect Level		
NOEC	No-Observed Effect Concentration		
OECD	Organisation for Economic Co-operation and Development		
OEL	Occupational Exposure Limit		

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Abbreviations and acronyms:		
PBT	Persistent Bioaccumulative Toxic	
PNEC	Predicted No-Effect Concentration	
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail	
SDS	Safety Data Sheet	
STP	Sewage treatment plant	
ThOD	Theoretical oxygen demand (ThOD)	
TLM	Median Tolerance Limit	
VOC	Volatile Organic Compounds	
CAS-No.	Chemical Abstract Service number	
N.O.S.	Not Otherwise Specified	
vPvB	Very Persistent and Very Bioaccumulative	
ED	Endocrine disrupting properties	

Full text of H- and EUH-statements:	
Acute Tox. 1 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 1 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 1
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H315	Causes skin irritation.
H330	Fatal if inhaled.
Skin Irrit. 2	Skin corrosion/irritation, Category 2

Safety Data Sheet (SDS), EU

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.