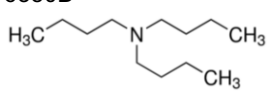


### MATERIAL SAFETY DATA SHEET (MSDS)

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

##### 1.1. Product identifier

Product form	: Substance
	:
EC no	: 203-058-7
CAS No	: 102-82-9
Product code	: 6350D
Chemical structure	: 
Synonyms	: Tri-n-butylamine

##### 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

###### 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](mailto:info@spanlab.in) [www.spanlab.in](http://www.spanlab.in)

#### 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 3	H311
Acute toxicity (inhalation:vapour) Category 1	H330
Skin corrosion/irritation, Category 2	H315
Hazardous to the aquatic environment — Chronic Hazard, Category 2	H411

Full text of classification categories and H statements : see section 16

# TRIBUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

### Classification according to Directive 67/548/EEC or 1999/45/EC

T; R23/24

Xn; R22

Xi; R38

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) :



GHS06

GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) : H302 - Harmful if swallowed  
H311 - Toxic in contact with skin  
H315 - Causes skin irritation  
H330 - Fatal if inhaled  
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (CLP) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray  
P273 - Avoid release to the environment  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P284 - [In case of inadequate ventilation] wear respiratory protection  
P310 - Immediately call a POISON CENTER or doctor/physician

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Name : TRIBUTYLAMINE FOR SYNTHESIS

CAS No : 102-82-9

EC no : 203-058-7

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

### 3.2. Mixture

Not applicable

# TRIBUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

### 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. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.
- First-aid measures after skin contact : Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
- 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.

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

- Symptoms/injuries after inhalation : Fatal if inhaled.
- Symptoms/injuries after skin contact : Toxic in contact with skin. Causes skin irritation.
- Symptoms/injuries 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<sub>2</sub>).
- Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

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

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

##### 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 : 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

- Precautions for safe handling : Do not get in eyes, on skin, or on clothing.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash ... thoroughly after handling.

# TRIBUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

### 7.2. Conditions for safe storage, including any incompatibilities

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

### 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 safety glasses  
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 : 185.36 g/mol  
Colour : Pale yellow.  
Odour : amine like.  
Odour threshold : No data available  
pH : 12  
Relative evaporation rate (butylacetate=1) : No data available  
Melting point : -70 °C  
Freezing point : No data available  
Boiling point : 216.5 °C  
Flash point : 63 °C  
Auto-ignition temperature : 210 °C  
Decomposition temperature : No data available  
Flammability (solid, gas) : No data available  
Vapour pressure : 0.3 mm Hg (at 20°C)  
Relative vapour density at 20 °C : 6.38  
Relative density : No data available  
Density : 0.7782 g/cm<sup>3</sup>

# TRIBUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

Solubility	: Water: Sparingly soluble in water
Log Pow	: 4.4 - 4.6
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.014 - 0.06 vol %

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions of use.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Direct sunlight. Overheating. Heat.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Oral: Harmful if swallowed. Dermal: Toxic in contact with skin. Inhalation:vapour: Fatal if inhaled.
Skin corrosion/irritation	: Causes skin irritation. pH: 12
Serious eye damage/irritation	: Not classified pH: 12
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified

# TRIBUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

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

TRIBUTYLAMINE FOR SYNTHESIS (102-82-9)	
Log Pow	4.4 - 4.6

#### 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 ...

Ecology - waste materials : Hazardous waste due to toxicity.

### SECTION 14: Transport information

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

#### 14.1. UN number

UN-No. (ADR) : 2542  
UN-No. (IMDG) : 2542  
UN-No.(IATA) : 2542  
UN-No.(ADN) : 2542  
UN-No. (RID) : 2542

# TRIBUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

### 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)	: UN 2542 TRIBUTYLAMINE, 6.1, II, (D/E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG)	: UN 2542 TRIBUTYLAMINE, 6.1, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	: UN 2542 TRIBUTYLAMINE, 6.1, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	: UN 2542 TRIBUTYLAMINE, 6.1, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	: UN 2542 TRIBUTYLAMINE, 6.1, II, ENVIRONMENTALLY HAZARDOUS

### 14.3. Transport hazard class(es)

#### ADR

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



#### IMDG

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



#### IATA

Transport hazard class(es) (IATA)	: 6.1
Hazard 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
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# TRIBUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

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 : Yes

Marine pollutant : Yes

Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : T1

Limited quantities (ADR) : 100ml

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 (ADR) : TP2

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 and handling (ADR) : CV13, CV28

Special provisions for carriage - Operation (ADR) : S9, S19

Hazard identification number (Kemler No.) : 60

Orange plates :



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



# TRIBUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

EmS-No. (Spillage) : S-A  
Stowage category (IMDG) : A  
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  
Portable tank and bulk container special provisions (RID) : TP2  
Tank codes for RID tanks (RID) : L4BH  
Special provisions for RID tanks (RID) : TU15  
Transport category (RID) : 2  
Special provisions for carriage – Loading and unloading (RID) : CW13, CW28, CW31  
Colis express (express parcels) (RID) : CE5  
Hazard identification number (RID) : 60

### 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

TRIBUTYLAMINE FOR SYNTHESIS is not on the REACH Candidate List

TRIBUTYLAMINE FOR SYNTHESIS is not on the REACH Annex XIV List

# TRIBUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

### 15.1.2. National regulations

#### Germany

AwSV/VwVwS Annex reference : Water hazard class (WGK) 3, strongly hazardous to water (KBwS-Beschluss; WGK No 594)

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

#### Denmark

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

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

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

Acute Tox. 1 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 1
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H302	Harmful if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H330	Fatal if inhaled
H411	Toxic to aquatic life with long lasting effects
R22	Harmful if swallowed
R23/24	Toxic by inhalation and in contact with skin
R38	Irritating to skin
T	Toxic
Xi	Irritant
Xn	Harmful

# TRIBUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

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*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*