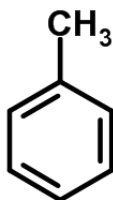


## MATERIAL SAFETY DATA SHEET (MSDS)

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

## 1.1. Product identifier

Product form : Substance  
:  
EC Index-No. : 601-021-00-3  
EC-No. : 203-625-9  
CAS-No. : 108-88-3  
Product code : 00326  
Formula : C<sub>7</sub>H<sub>8</sub> - (C(CH<sub>3</sub>)CHCHCHCHCH)  
Chemical structure :



Synonyms : methylbenzene

## 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](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]

Flammable liquids, H225  
Category 2  
Skin corrosion/irritation, H315  
Category 2

# TOLUENE AR

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|  |       |
|--|-------|
| Reproductive toxicity, Category 2                                      | H361d |
| Specific target organ toxicity — Single exposure, Category 3, Narcosis | H336  |
| Specific target organ toxicity — Repeated exposure, Category 2         | H373  |
| Aspiration hazard, Category 1  | H304  |

Full text of H statements : see section 16

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

Repr.Cat.3; R63  
F; R11  
Xn; R65  
Xn; R48/20  
Xi; R38  
R67

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

GHS07

GHS08

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapour.  
H304 - May be fatal if swallowed and enters airways.  
H315 - Causes skin irritation.  
H336 - May cause drowsiness or dizziness.  
H361d - Suspected of damaging the unborn child.  
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P260 - Do not breathe vapours, dust, fume, gas.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection.  
P301+P310 - IF SWALLOWED: Immediately call a doctor.  
P331 - Do NOT induce vomiting.

## 2.3. Other hazards

No additional information available

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## Safety Data Sheet

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

|              |                |
|--------------|----------------|
| Name         | : TOLUENE AR   |
| CAS-No.      | : 108-88-3     |
| EC-No.       | : 203-625-9    |
| EC Index-No. | : 601-021-00-3 |

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. Call a POISON CENTER/doctor if you feel unwell.                                     |
| First-aid measures after skin contact | : Wash with plenty of water/.... Wash contaminated clothing before reuse. Get medical advice/attention.  |
| First-aid measures after eye contact  | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. |
| First-aid measures after ingestion    | : Immediately call a POISON CENTER/doctor. Rinse mouth.  |

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

|                                     |  |
|-------------------------------------|--|
| Symptoms/effects                    | : Causes damage to organs.   |
| Symptoms/effects after inhalation   | : May cause respiratory irritation. May cause drowsiness or dizziness. |
| Symptoms/effects after skin contact | : Causes skin irritation.  |
| Symptoms/effects after ingestion    | : May be fatal if swallowed and enters airways.                        |

#### 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   | : Carbon dioxide. Dry powder. Foam. Water spray.   |
| 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 enter fire area without proper protective equipment, including respiratory protection. |
|--------------------------------|---|

### 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. |
|------------------|---|

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

|                      |                                   |
|----------------------|-----------------------------------|
| Emergency procedures | : Evacuate unnecessary personnel. |
|----------------------|-----------------------------------|

# TOLUENE AR

## Safety Data Sheet

### 6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.  
Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Collect spillage.

### 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 : Avoid contact with skin and eyes. Use only non-sparking tools. Keep away from sources of ignition - No smoking. Use only outdoors or in a well-ventilated area. Do not breathe vapours.  
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 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.  
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 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 : 92.14 g/mol  
Colour : Clear Colorless.

# TOLUENE AR

## Safety Data Sheet

|  |  |
|--|--|
| Odour                                      | : aromatic benzene-like.                           |
| Odour threshold                            | : No data available                                |
| pH   | : No data available                                |
| Relative evaporation rate (butylacetate=1) | : 2.24   |
| Melting point                              | : -93 °C   |
| Freezing point                             | : No data available                                |
| Boiling point                              | : 110 - 111 °C                                     |
| Flash point                                | : 4 °C   |
| Auto-ignition temperature                  | : 535 °C   |
| Decomposition temperature                  | : No data available                                |
| Flammability (solid, gas)                  | : Flammable<br>Highly flammable liquid and vapour. |
| Vapour pressure                            | : 22 at 20°C                                       |
| Relative vapour density at 20 °C           | : 3.14   |
| Relative density                           | : No data available                                |
| Density                                    | : 0.86 g/cm <sup>3</sup>                           |
| Solubility                                 | : Water: 0.05 @ 20°C (gm/100gm 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                           | : 0.012 - 0.07 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.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Open flame. Heat. Sparks.

### 10.5. Incompatible materials

No additional information available

# TOLUENE AR

## Safety Data Sheet

### 10.6. Hazardous decomposition products

May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Suspected of damaging the unborn child.

STOT-single exposure : May cause drowsiness or dizziness.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : May be fatal if swallowed and enters airways.

## 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

### 12.6. Other adverse effects

No additional information available

# TOLUENE AR

## Safety Data Sheet

### 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.   |
| 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)  | : 1294 |
| UN-No. (IMDG) | : 1294 |
| UN-No. (IATA) | : 1294 |
| UN-No. (ADN)  | : 1294 |
| UN-No. (RID)  | : 1294 |

#### 14.2. UN proper shipping name

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| Proper Shipping Name (ADR)            | : TOLUENE                           |
| Proper Shipping Name (IMDG)           | : TOLUENE                           |
| Proper Shipping Name (IATA)           | : Toluene                           |
| Proper Shipping Name (ADN)            | : TOLUENE                           |
| Proper Shipping Name (RID)            | : TOLUENE                           |
| Transport document description (ADR)  | : UN 1294 TOLUENE, 3, II, (D/E)     |
| Transport document description (IMDG) | : UN 1294 TOLUENE, 3, II (7°C c.c.) |
| Transport document description (IATA) | : UN 1294 Toluene, 3, II            |
| Transport document description (ADN)  | : UN 1294 TOLUENE, 3, II            |
| Transport document description (RID)  | : UN 1294 TOLUENE, 3, II            |

#### 14.3. Transport hazard class(es)

##### ADR

|                                  |     |
|----------------------------------|-----|
| Transport hazard class(es) (ADR) | : 3 |
| Danger labels (ADR)              | : 3 |



##### IMDG

|                                   |     |
|-----------------------------------|-----|
| Transport hazard class(es) (IMDG) | : 3 |
| Danger labels (IMDG)              | : 3 |



##### IATA

|                                   |     |
|-----------------------------------|-----|
| Transport hazard class(es) (IATA) | : 3 |
| Hazard labels (IATA)              | : 3 |

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## Safety Data Sheet



### ADN

Transport hazard class(es) (ADN) : 3

Danger labels (ADN) : 3



### RID

Transport hazard class(es) (RID) : 3

Danger labels (RID) : 3



### 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) : F1

Limited quantities (ADR) : 1I

Excepted quantities (ADR) : E2

Packing instructions (ADR) : P001, IBC02, R001

Mixed packing provisions (ADR) : MP19

Portable tank and bulk container

instructions (ADR) : T4

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

Tank code (ADR) : LGBF

Vehicle for tank carriage : FL

Transport category (ADR) : 2

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

Hazard identification number (Kemler No.) : 33



# TOLUENE AR

## Safety Data Sheet

Orange plates : 

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

### - Transport by sea

Limited quantities (IMDG) : 1 L  
Excepted quantities (IMDG) : E2  
Packing instructions (IMDG) : P001  
IBC packing instructions (IMDG) : IBC02  
Tank instructions (IMDG) : T4  
Tank special provisions (IMDG) : TP1  
EmS-No. (Fire) : F-E  
EmS-No. (Spillage) : S-D  
Stowage category (IMDG) : B  
Flash point (IMDG) : 7°C c.c.  
Properties and observations (IMDG) : Colourless liquid with a benzene-like odour. Flashpoint: 7°C c.c. Explosive limits: 1.27% to 7% Immiscible with water.  
MFAG-No : 130

### - Air transport

PCA Excepted quantities (IATA) : E2  
PCA Limited quantities (IATA) : Y341  
PCA limited quantity max net quantity (IATA) : 1L  
PCA packing instructions (IATA) : 353  
PCA max net quantity (IATA) : 5L  
CAO packing instructions (IATA) : 364  
CAO max net quantity (IATA) : 60L  
ERG code (IATA) : 3L

### - Inland waterway transport

Classification code (ADN) : F1  
Limited quantities (ADN) : 1 L  
Excepted quantities (ADN) : E2  
Carriage permitted (ADN) : T  
Equipment required (ADN) : PP, EX, A  
Ventilation (ADN) : VE01  
Number of blue cones/lights (ADN) : 1

### - Rail transport

Classification code (RID) : F1  
Limited quantities (RID) : 1L  
Excepted quantities (RID) : E2  
Packing instructions (RID) : P001, IBC02, R001  
Mixed packing provisions (RID) : MP19  
Portable tank and bulk container instructions (RID) : T4  
Portable tank and bulk container special provisions (RID) : TP1  
Tank codes for RID tanks (RID) : LGBF  
Transport category (RID) : 2  
Colis express (express parcels) (RID) : CE7  
Hazard identification number (RID) : 33

# TOLUENE AR

## Safety Data Sheet

### 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

TOLUENE AR is not on the REACH Candidate List

TOLUENE AR is not on the REACH Annex XIV List

#### 15.1.2. National regulations

##### Germany

Reference to AwSV : Water hazard class (WGK) 2, Significantly hazardous to water (Classification according to AwSV; ID No. 194)

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 : TOLUENE AR is 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 : TOLUENE AR is listed

##### Denmark

Class for fire hazard : Class I-1

Store unit : 1 liter

Classification remarks : F <Flam. Liq. 2>; 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

The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

### 15.2. Chemical safety assessment

No additional information available

# TOLUENE AR

## Safety Data Sheet

### SECTION 16: Other information

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

|               |  |
|---------------|--|
| Asp. Tox. 1   | Aspiration hazard, Category 1  |
| Flam. Liq. 2  | Flammable liquids, Category 2  |
| Repr. 2       | Reproductive toxicity, Category 2  |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2  |
| STOT RE 2     | Specific target organ toxicity — Repeated exposure, Category 2                       |
| STOT SE 3     | Specific target organ toxicity — Single exposure, Category 3, Narcosis               |
| H225          | Highly flammable liquid and vapour.  |
| H304          | May be fatal if swallowed and enters airways.  |
| H315          | Causes skin irritation.  |
| H336          | May cause drowsiness or dizziness.   |
| H361d         | Suspected of damaging the unborn child.  |
| H373          | May cause damage to organs through prolonged or repeated exposure.                   |
| R11           | Highly flammable   |
| R38           | Irritating to skin   |
| R48/20        | Harmful: danger of serious damage to health by prolonged exposure through inhalation |
| R63           | Possible risk of harm to the unborn child  |
| R65           | Harmful: may cause lung damage if swallowed  |
| R67           | Vapours may cause drowsiness and dizziness   |
| F             | Highly flammable   |
| Xi            | Irritant   |
| 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.*