

**Safety data sheet**  
**according to Regulation (EC) No 1907/2006, Article 31**

Printing date 22.07.2024

Version number 29.4 (replaces version 29.3)

Revision: 20.06.2024

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

**Trade name:** Toluene, ASTM RF Grade, Antioxidant  
**Article number:** 206085  
**CAS N°:** 108-88-3  
**EC N°:** 203-625-9  
**Index number:** 601-021-00-3  
**Registration number** 01-2119471310-51

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

**Identified uses**

- Manufacture of substance - Industrial
- Use as an intermediate product - Industrial
- Distribution of substance - Industrial
- Formulation and (re)packaging of substances and mixtures - Industrial
- Use in Coatings - Industrial
- Use in Coatings - Professional
- Use in Coatings - Consumer
- Use in Cleaning Agents - Industrial
- Use in Cleaning Agents - Professional
- Use in Oil and Gas field drilling and production operations - Industrial
- Use as binders and release agents - Industrial
- Use as binders and release agents - Professional
- Use as a Fuel - Industrial
- Use as a Fuel - Professional
- Use as a Fuel - Consumer
- Functional Fluids - Industrial
- Functional Fluids - Professional
- Road and construction applications - Industrial
- Use in Laboratories - Industrial
- Use in Laboratories - Professional
- Rubber production and processing - Industrial

**Application of the substance /  
the mixture**

Solvents

**1.3 Details of the supplier of the safety data sheet**

**Manufacturer/Supplier:** Haltermann Carless Deutschland GmbH  
Schlengendeich 17  
21107 Hamburg, Germany  
+49 (0)40 333 18 0  
MSDS-HCDE@h-c-s-group.com

**Informing department:** Product Stewardship

**1.4 Emergency telephone**

**number:** CHEMTREC +1-703-527-3887 / +44 20 3885 0382 (EMEA) / +44 20 3807 3798 (UK)

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Flam. Liq. 2 H225 Highly flammable liquid and vapour.  
Skin Irrit. 2 H315 Causes skin irritation.  
Repr. 2 H361d Suspected of damaging the unborn child.  
STOT SE 3 H336 May cause drowsiness or dizziness.

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STOT RE 2      H373    May cause damage to organs through prolonged or repeated exposure.  
 Asp. Tox. 1      H304    May be fatal if swallowed and enters airways.  
 Aquatic Chronic 3 H412    Harmful to aquatic life with long lasting effects.

**2.2 Label elements****Labelling according to****Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

**Hazard pictograms**

GHS02

GHS07

GHS08

**Signal word**

Danger

**Hazard-determining components of labelling:**

toluene

**Hazard statements**

H225 Highly flammable liquid and vapour.  
 H315 Causes skin irritation.  
 H361d Suspected of damaging the unborn child.  
 H336 May cause drowsiness or dizziness.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H304 May be fatal if swallowed and enters airways.  
 H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P210      Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P241      Use explosion-proof [electrical/ventilating/lighting] equipment.  
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
 P321      Specific treatment (see on this label).  
 P331      Do NOT induce vomiting.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P405      Store locked up.  
 P501      Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3 Other hazards****Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

**SECTION 3: Composition/information on ingredients****3.1 Substances**

CAS No. Designation: 108-88-3 toluene

Identification number(s):

EC N°: 203-625-9

Index number: 601-021-00-3

**SECTION 4: First aid measures****4.1 Description of first aid measures**

**General information** Instantly remove any clothing soiled by the product.  
**After inhalation** In case of unconsciousness bring patient into stable side position for transport.  
**After skin contact** Instantly wash with water and soap and rinse thoroughly.  
 Instantly rinse with water.  
**After eye contact** Rinse opened eye for several minutes under running water.

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**After swallowing** Do not induce vomiting; instantly call for medical help.

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

No further relevant information available.

**Danger**

Aspiration hazard

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

No further relevant information available.

#### \* SECTION 5: Firefighting measures

##### 5.1 Extinguishing media

**Suitable extinguishing agents** CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol-resistant foam.

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

Formation of poisonous gases during heating or in fires.

The vapour is heavier than air, spreads along the ground and ignition at a greater distance is possible.

##### 5.3 Advice for firefighters

**Protective equipment:**

Put on breathing apparatus.

#### SECTION 6: Accidental release measures

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

Put on breathing apparatus.

Wear protective equipment. Keep unprotected persons away.

##### 6.2 Environmental precautions:

Do not allow product to reach sewage system or water bodies.

Prevent material from reaching sewage system, holes and cellars.

Inform respective authorities in case product reaches water or sewage system.

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

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

##### 6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

#### SECTION 7: Handling and storage

##### 7.1 Precautions for safe handling

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

Open and handle container with care.

Prevent formation of aerosols.

##### Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep breathing equipment ready.

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

##### Storage

##### Requirements to be met by

**storerooms and containers:** Store in cool location.

##### Information about storage in one

**common storage facility:** Not required.

##### Further information about

**storage conditions:** Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.**7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### Components with critical values that require monitoring at the workplace:

##### 108-88-3 toluene

IOELV Short-term value: 384 mg/m<sup>3</sup>, 100 ppmLong-term value: 192 mg/m<sup>3</sup>, 50 ppm

Skin

##### DNELs

##### 108-88-3 toluene

Oral Consumers 8.13 mg/kg bw/day (Long-term - systemic)

Dermal Workers 384 mg/kg bw/day (Long-term - systemic)

Consumers 226 mg/kg bw/day (Long-term - systemic)

Inhalative Workers 384 mg/m<sup>3</sup> (Short-term - systemic)384 mg/m<sup>3</sup> (Short-term - local)192 mg/m<sup>3</sup> (Long-term - systemic)192 mg/m<sup>3</sup> (Long-term - local)Consumers 226 mg/m<sup>3</sup> (Short-term - systemic)226 mg/m<sup>3</sup> (Short-term - local)56.5 mg/m<sup>3</sup> (Long-term - systemic)56.6 mg/m<sup>3</sup> (Long-term - local)

##### PNECs

##### 108-88-3 toluene

Water 0.68 mg/l (Aquatic compartment)

Sediment 16.39 mg/kg (Aquatic compartment)

Soil 2.89 mg/kg (Terrestrial compartment)

STP 13.61 mg/l (Sewage treatment plant)

**Additional information:** The lists that were valid during the compilation were used as basis.

#### 8.2 Exposure controls

##### Appropriate engineering

**controls** No further data; see section 7.

##### Individual protection measures, such as personal protective equipment

##### General protective and hygienic

**measures** Keep away from foodstuffs, beverages and food.

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Instantly remove any soiled and impregnated garments.  
Wash hands during breaks and at the end of the work.  
Store protective clothing separately.  
Avoid contact with the skin.  
Pregnant women must strictly avoid inhalation or contact with the skin.  
Do not ingest.

**Breathing equipment:** Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device. Filter A.

**Hand protection** Protective gloves.  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Material of gloves** The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.  
> 0,71 mm  
Nitrile rubber, NBR  
> 0,38 mm

**Penetration time of glove material** > 120 min (EN 374)

**Eye/face protection** Tightly sealed safety glasses.

#### SECTION 9: Physical and chemical properties

##### 9.1 Information on basic physical and chemical properties

###### General Information

<b>Physical state</b>	Fluid
<b>Colour:</b>	Light yellow
<b>Smell:</b>	Aromatic
<b>Odour threshold:</b>	Not determined.
<b>Melting point/freezing point:</b>	-95 °C
<b>Boiling point or initial boiling point and boiling range</b>	110 °C
<b>Flammability</b>	Highly flammable.
<b>Lower and upper explosion limit</b>	
<b>Lower:</b>	1.2 Vol %
<b>Upper:</b>	7 Vol %
<b>Flash point:</b>	5 °C
<b>Auto-ignition temperature:</b>	535 °C
<b>Decomposition temperature:</b>	Not determined.
<b>pH</b>	Not determined.
<b>Viscosity:</b>	
<b>Kinematic viscosity</b>	Not determined.
<b>dynamic:</b>	Not determined.
<b>Solubility</b>	
<b>Water at 15 °C:</b>	0.5 g/l
<b>Partition coefficient n-octanol/water (log value)</b>	Not determined.
<b>Vapour pressure:</b>	Not determined.

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<b>Density and/or relative density</b>	
Density at 20 °C	0.870 g/cm <sup>3</sup>
Relative density	Not determined.
Vapour density	Not determined.
<b>9.2 Other information</b>	
<b>Appearance:</b>	
Form:	Fluid
<b>Important information on protection of health and environment, and on safety.</b>	
<b>Explosive properties:</b>	Product is not explosive. However, formation of explosive air/steam mixtures is possible.
<b>Solvent content:</b>	
VOC content (EU)	100 %
Change in condition	
Softening point/range	
Oxidising properties	Not applicable.
Evaporation rate	Not determined.
<b>Information with regard to physical hazard classes</b>	
Explosives	Void
Flammable gases	Void
Aerosols	Void
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	Highly flammable liquid and vapour.
Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

### SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	No further relevant information available.
<b>10.2 Chemical stability</b>	
<b>Conditions to be avoided:</b>	No decomposition if used according to specifications.
<b>10.3 Possibility of hazardous reactions</b>	No dangerous reactions known
<b>10.4 Conditions to avoid</b>	No further relevant information available.
<b>10.5 Incompatible materials:</b>	No further relevant information available.
<b>10.6 Hazardous decomposition products:</b>	None

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#### SECTION 11: Toxicological information

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

**Acute toxicity** Based on available data, the classification criteria are not met.**LD/LC50 values that are relevant for classification:**

Oral LD50 5,000 mg/kg (rat)  
Dermal LD50 12,124 mg/kg (rab)  
Inhalative LC50 /4 h 5,320 mg/L (mouse)

**108-88-3 toluene**

Oral LD50 5,000 mg/kg (rat)  
Dermal LD50 12,124 mg/kg (rab)  
Inhalative LC50 /4 h 5,320 mg/L (mouse)

**Skin corrosion/irritation** Causes skin irritation.**Serious eye damage/irritation** Based on available data, the classification criteria are not met.**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.**Germ cell mutagenicity** Based on available data, the classification criteria are not met.**Carcinogenicity** Based on available data, the classification criteria are not met.**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.

##### 11.2 Information on other hazards

**Endocrine disrupting properties**

Substance is not listed.

#### SECTION 12: Ecological information

##### 12.1 Toxicity

**Aquatic toxicity:** No further relevant information available.

##### 12.2 Persistence and degradability

No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.**12.4 Mobility in soil** No further relevant information available.

##### 12.5 Results of PBT and vPvB assessment

**PBT:** Not applicable.**vPvB:** Not applicable.

##### 12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

##### 12.7 Other adverse effects

**Remark:** Harmful to fish**Additional ecological information:****General notes:** Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into soil.

Harmful to aquatic organisms

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**SECTION 13: Disposal considerations**
**13.1 Waste treatment methods**

**Recommendation** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**SECTION 14: Transport information**
**14.1 UN number or ID number**

**ADR/RID, IMDG, IATA** UN1294

**14.2 UN proper shipping name**

**ADR/RID** 1294 TOLUENE  
**IMDG, IATA** TOLUENE

**14.3 Transport hazard class(es)****ADR/RID**

**Class** 3 (F1) Flammable liquids.  
**Label** 3

**IMDG, IATA**

**Class** 3 Flammable liquids.  
**Label** 3

**14.4 Packing group**

**ADR/RID, IMDG, IATA** II

**14.5 Environmental hazards:**

**Marine pollutant:** No

**14.6 Special precautions for user**

**Warning:** Flammable liquids.  
**Kemler Number:** 33  
**EMS Number:** F-E,S-D  
**Stowage Category** B

**14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.



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<b>Transport/Additional information:</b>	
<b>ADR/RID</b>	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
Transport category	2
Tunnel restriction code	D/E
<b>IMDG</b>	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<b>UN "Model Regulation":</b>	UN 1294 TOLUENE, 3, II

### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture TSCA (Toxic Substances Control Act)

: ACTIVE

#### Canadian Domestic Substances List (DSL)

Substance is listed.

#### Philippines Inventory of Chemicals and Chemical Substances (PICCS)

Substance is listed.

#### Chinese Chemical Inventory of Existing Chemical Substances (IECSC)

Substance is listed.

#### Australian Inventory of Industrial Chemicals (AIIC)

Substance is listed.

#### Korean Existing Chemical Inventory (KECI)

Substance is listed.

#### New Zealand Inventory of Chemicals (NZIoC)

Substance is listed.

#### Taiwan Chemical Substance Inventory (TCSI)

Substance is listed.

#### Japan Existing and New Chemical Substance List (ENCS)

Substance is listed.

#### Directive 2012/18/EU

#### Named dangerous substances -

#### ANNEX I

Substance is not listed.

#### Seveso category

P5c FLAMMABLE LIQUIDS

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**Qualifying quantity (tonnes) for  
the application of lower-tier  
requirements** 5,000 t

**Qualifying quantity (tonnes) for  
the application of upper-tier  
requirements** 50,000 t

**REGULATION (EC) No 1907/2006****ANNEX XVII** Conditions of restriction: 3, 48**DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

Substance is not listed.

**REGULATION (EU) 2019/1148****Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

Substance is not listed.

**Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

Substance is not listed.

**Regulation (EC) No 273/2004 on drug precursors**

: 3

**Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

: 3

**15.2 Chemical safety  
assessment:**

A Chemical Safety Assessment has been carried out.

**SECTION 16: Other information**

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Date of previous version:** 15.04.2024**Version number of previous  
version:**

29.3

**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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Asp. Tox. 1: Aspiration hazard – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

**\* Data compared to the previous  
version altered.****Annex: Exposure scenario****Short title of the exposure  
scenario**

Toluene

EC number: 203-625-9

[http://pydio.haltermann.com/data/public/es\\_toluene.pdf](http://pydio.haltermann.com/data/public/es_toluene.pdf)