# Safety data sheet

**according to 1907/2006/EC, Article 31**

*Printing date 19.06.2018* *Version number 1* *Revision: 19.06.2018*

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

· **1.1 Product identifier**

· **Product name: 1,1,1-Trichloroethane 10 µg/mL in Methanol**

· **Part number:** DRE-L17738300ME
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **Application of the substance / the mixture** Reference material for laboratory use only

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
LGC Limited
Queens Road
Teddington
Middlesex TW11 0LY
UNITED KINGDOM

Tel :+44 (0) 20 8943 7000
Fax :+44 (0) 20 8943 2767
eMail : gb@lgcstandards.com
Web : www.lgcstandards.com

· **Further information obtainable from:**
Product safety department
eMail : sds-request@lgcgroup.com
· **1.4 Emergency telephone number:** +44 (0) 20 8943 7000 (Monday - Friday : 8am - 5pm)

## SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.
Acute Tox. 3 H311 Toxic in contact with skin.
Acute Tox. 3 H331 Toxic if inhaled.

GHS08 health hazard

STOT SE 1 H370 Causes damage to organs.

GHS07

Ozone 1 H420 Harms public health and the environment by destroying ozone in the upper atmosphere

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· ***2.2 Label elements***
· ***Labelling according to Regulation (EC) No 1272/2008***
*The product is classified and labelled according to the CLP regulation.*
· ***Hazard pictograms***

GHS02 GHS06 GHS08

· ***Signal word*** *Danger*

· ***Hazard-determining components of labelling:***
*Methanol*
· ***Hazard statements***

| | |
|---|---|
| *H225* | *Highly flammable liquid and vapour.* |
| *H301+H311+H331* | *Toxic if swallowed, in contact with skin or if inhaled.* |
| *H370* | *Causes damage to organs.* |
| *H420* | *Harms public health and the environment by destroying ozone in the upper atmosphere* |

· ***Precautionary statements***

| | |
|---|---|
| *P280* | *Wear protective gloves/protective clothing/eye protection/face protection.* |
| *P301+P310* | *IF SWALLOWED: Immediately call a POISON CENTER/ doctor.* |
| *P321* | *Specific treatment (see on this label).* |
| *P330* | *Rinse mouth.* |
| *P303+P361+P353* | *IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.* |
| *P361+P364* | *Take off immediately all 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*

· ***3.2 Chemical characterisation: Mixtures***
· ***Description:*** *Mixture: consisting of the following components.*

| · ***Dangerous components:*** | | |
|---|---|---|
| *CAS: 67-56-1*<br>*EINECS: 200-659-6*<br>*RTECS: PC1400000* | *Methanol*<br>*Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT SE 1, H370* | *>99%* |
| *CAS: 71-55-6*<br>*EINECS: 200-756-3*<br>*RTECS: KJ2975000* | *1,1,1-trichloroethane*<br>*Acute Tox. 4, H332; Ozone 1, H420* | *<1%* |

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· ***Additional information:*** *For the wording of the listed hazard phrases refer to section 16.*

## SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information:***
*Immediately remove any clothing soiled by the product.*
*Remove breathing equipment only after contaminated clothing has been completely removed.*
*In case of irregular breathing or respiratory arrest provide artificial respiration.*
· ***After inhalation:***
*Supply fresh air or oxygen; call for doctor.*
*In case of unconsciousness place patient in recovery position for transport.*
*Seek immediate medical advice.*
· ***After skin contact:***
*Immediately wash with water and soap and rinse thoroughly.*
*Seek immediate medical advice.*
· ***After eye contact:*** *Rinse opened eye for several minutes under running water. Then consult a doctor.*
· ***After swallowing:***
*Rinse mouth. Do not induce vomiting.*
*Call for a doctor immediately.*
· ***4.2 Most important symptoms and effects, both acute and delayed*** *No further relevant information available.*
· ***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:***
*CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*
· ***5.2 Special hazards arising from the substance or mixture***
*During heating or in case of fire poisonous gases are produced.*
· ***5.3 Advice for firefighters***
· ***Protective equipment:***
*Mouth respiratory protective device.*
*Wear self-contained respiratory protective device.*

## SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
*Mount respiratory protective device.*
*Wear protective equipment. Keep unprotected persons away.*
· ***6.2 Environmental precautions:***
*Dilute with plenty of water.*
*Do not allow to enter sewers/ surface or ground water.*

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· ***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 disposal information.*

## *SECTION 7: Handling and storage*

· ***7.1 Precautions for safe handling***
*Ensure good ventilation/extraction at the workplace.*
*Store in cool, dry place in tightly closed receptacles.*
*Open and handle receptacle with care.*
*Prevent formation of aerosols.*
· ***Information about fire - and explosion protection:***
*Keep ignition sources away - Do not smoke.*
*Protect against electrostatic charges.*
*Keep respiratory protective device available.*

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:***
*Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.*
*Store only in the original receptacle.*
*Keep container in a well-ventilated place. Keep away from sources of ignition and heat.*
· ***Information about storage in one common storage facility:*** *Store away from foodstuffs.*
· ***Further information about storage conditions:***
*Keep container tightly sealed.*
*Store in cool, dry conditions in well sealed receptacles.*
· ***7.3 Specific end use(s)*** *No further relevant information available.*

## *SECTION 8: Exposure controls/personal protection*

· ***Additional information about design of technical facilities:*** *No further data; see item 7.*

· ***8.1 Control parameters***

| · ***Ingredients with limit values that require monitoring at the workplace:*** | |
|---|---|
| ***67-56-1 Methanol*** | |
| *WEL* | *Short-term value: 333 mg/m³, 250 ppm*<br>*Long-term value: 266 mg/m³, 200 ppm*<br>*Sk* |
| ***71-55-6 1,1,1-trichloroethane*** | |
| *WEL* | *Short-term value: 1110 mg/m³, 200 ppm*<br>*Long-term value: 555 mg/m³, 100 ppm* |

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· ***Additional information:*** *Lists used were valid at the time of SDS preparation.*

· ***8.2 Exposure controls***
· ***Personal protective equipment:***
· ***General protective and hygienic measures:***
*Keep away from foodstuffs, beverages and feed.*
*Immediately remove all soiled and contaminated clothing*
*Wash hands before breaks and at the end of work.*
*Store protective clothing separately.*
*Avoid contact with the eyes and skin.*
· ***Respiratory protection:***
*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.*
*Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced*
· ***Protection of hands:***
*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*
*The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374*

*Protective gloves*

· ***Material of gloves*** *Butyl rubber, BR*
· ***Penetration time of glove material***
*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*
· ***Eye protection:***

*Tightly sealed goggles*

## *SECTION 9: Physical and chemical properties*

· ***9.1 Information on basic physical and chemical properties***
· ***General Information***
· ***Appearance:***

| | |
|---|---|
| ***Form:*** | *Liquid* |
| ***Colour:*** | *Colourless* |
| · ***Odour:*** | *Alcohol-like* |
| · ***Odour threshold:*** | *Not determined.* |

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| | |
|---|---|
| · **pH-value:** | Not determined. |
| · **Change in condition** | |
| **Melting point/freezing point:** | -98 °C |
| **Initial boiling point and boiling range:** | 65 °C |
| · **Flash point:** | 12 °C |
| · **Flammability (solid, gas):** | Not determined. |
| · **Ignition temperature:** | Not determined |
| · **Decomposition temperature:** | Not determined. |
| · **Auto-ignition temperature:** | Product is not selfigniting. |
| · **Explosive properties:** | Product is not explosive. However, formation of explosive air/ vapour mixtures is possible. |
| · **Explosion limits:** | |
| **Lower:** | 6 Vol % |
| **Upper:** | 50 Vol % |
| · **Vapour pressure:** | Not determined. |
| · **Density at 20 °C:** | 0.80054 g/cm³ |
| · **Relative density** | Not determined. |
| · **Vapour density** | Not determined. |
| · **Evaporation rate** | Not determined. |
| · **Solubility in / Miscibility with water:** | Fully miscible. |
| · **Partition coefficient: n-octanol/water:** | Not determined. |
| · **Viscosity:** | |
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| · **9.2 Other information** | No further relevant information available. |

## SECTION 10: Stability and reactivity

· **10.1 Reactivity** Stable under normal conditions.
· **10.2 Chemical stability** Stable under normal conditions.
· **Thermal decomposition / conditions to be avoided:**
Formation of toxic gases is possible during heating or in case of fire.
· **10.3 Possibility of hazardous reactions** May form flammable/explosive vapour-air mixture.
· **10.4 Conditions to avoid**
Sources of ignition
Heat.
· **10.5 Incompatible materials:**
Strong oxidizing agents.

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*Strong acids.*
*Reducing agents.*
*Alkali metals.*
· ***10.6 Hazardous decomposition products:***
*Formation of toxic gases is possible during heating or in case of fire.*

## *SECTION 11: Toxicological information*

· ***11.1 Information on toxicological effects***
· ***Acute toxicity***
*Toxic if swallowed, in contact with skin or if inhaled.*

| · ***LD/LC50 values relevant for classification:*** | | |
|---|---|---|
| ***71-55-6 1,1,1-trichloroethane*** | | |
| *Oral* | *LD50* | *6,000 mg/kg (mouse)* |
| | | *9,600 mg/kg (rat)* |
| | | *5,660 mg/kg (rabbit)* |
| *Inhalative* | *LC50/4 h* | *98.2 mg/l (rat)* |
| | *LD 50 (Intraperitoneal)* | *3,593 mg/kg (rat)* |

· ***Primary irritant effect:***
· ***Skin corrosion/irritation*** *Based on available data, the classification criteria are not met.*
· ***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.*
· ***CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)***
· ***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*** *Based on available data, the classification criteria are not met.*
· ***STOT-single exposure***
*Causes damage to organs.*
· ***STOT-repeated exposure*** *Based on available data, the classification criteria are not met.*
· ***Aspiration hazard*** *Based on available data, the classification criteria are not met.*

## *SECTION 12: Ecological information*

· ***12.1 Toxicity***

| · ***Aquatic toxicity:*** | |
|---|---|
| ***67-56-1 Methanol*** | |
| *LC50/96 h* | *24,000 mg/l (fish)* |
| ***71-55-6 1,1,1-trichloroethane*** | |
| *LC50/48* | *11.2 mg/l (crustacean)* |
| *EC50/72h* | *430 mg/l (Algae)* |
| *LC50/96 h* | *55 mg/l (fish)* |

· ***12.2 Persistence and degradability*** *No further relevant information available.*

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· ***12.3 Bioaccumulative potential*** *No further relevant information available.*
· ***12.4 Mobility in soil*** *No further relevant information available.*
· ***Additional ecological information:***
· ***General notes:***
*Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water*
*Do not allow undiluted product to reach ground water, water course or sewage system.*
· ***12.5 Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable.*
· ***vPvB:*** *Not applicable.*
· ***12.6 Other adverse effects*** *No further relevant information available.*

## *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.*
· ***European waste catalogue***
*Waste disposal key numbers from EWC have to be assigned depending on origin and processing.*

· ***Uncleaned packaging:***
· ***Recommendation:*** *Dispose of in accordance with national regulations.*
· ***Recommended cleansing agents:*** *Water, if necessary together with cleansing agents.*

## *SECTION 14: Transport information*

· ***14.1 UN-Number***
· ***ADR, IMDG, IATA*** *UN1230*
· ***ADR*** *1230 METHANOL mixture*
· ***IMDG, IATA*** *METHANOL mixture*

· ***14.3 Transport hazard class(es)***

· ***ADR***

· ***Class*** *3 Flammable liquids.*
· ***Label*** *3+6.1*

· ***IMDG***

· ***Class*** *3 Flammable liquids.*

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| | |
|---|---|
| · **Label** | 3/6.1 |
| · **IATA** | |
|  | |
| · **Class** | 3 Flammable liquids. |
| · **Label** | 3 (6.1) |
| · **14.4 Packing group** | |
| · **ADR, IMDG, IATA** | II |
| · **14.5 Environmental hazards:** | Not applicable. |
| · **14.6 Special precautions for user** | Warning: Flammable liquids. |
| · **Danger code (Kemler):** | 336 |
| · **EMS Number:** | F-E,S-D |
| · **Stowage Category** | B |
| · **Stowage Code** | SW2 Clear of living quarters. |
| · **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** | Not applicable. |
| · **Transport/Additional information:** | |
| · **ADR** | |
| · **Limited quantities (LQ)** | 1L |
| · **Excepted quantities (EQ)** | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · **Transport category** | 2 |
| · **Tunnel restriction code** | D/E |
| · **UN "Model Regulation":** | UN 1230 METHANOL MIXTURE, 3 (6.1), II |

## SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category**
H2 ACUTE TOXIC
P5c FLAMMABLE LIQUIDS
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 69

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| · ***Regulation (EU) No 649/2012*** | | |
|---|---|---|
| *71-55-6* | *1,1,1-trichloroethane* | *Annex I Part 1* |

· ***15.2 Chemical safety assessment:*** *A Chemical Safety Assessment has not been carried out.*

## *SECTION 16: Other information*

*The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/ or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. LGC makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.*

· ***Abbreviations and acronyms:***
*ADR: Accord européen sur le transport 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*
*ELINCS: European List of Notified Chemical Substances*
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*
*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*
*Acute Tox. 3: Acute toxicity – Category 3*
*Acute Tox. 4: Acute toxicity – Category 4*
*STOT SE 1: Specific target organ toxicity (single exposure) – Category 1*
*Ozone 1: Hazardous to the ozone layer – Category 1*

· ***Sources***
*Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.*

· ***Data compared to the previous version altered.*** *All sections have been updated.*