



Substance name: Trichloroethylene
EC Number: 201-167-4
CAS Number: 79-01-6

MEMBER STATE COMMITTEE
SUPPORT DOCUMENT FOR IDENTIFICATION OF
TRICHLOROETHYLENE
AS A SUBSTANCE OF VERY HIGH CONCERN BECAUSE OF
ITS CMR PROPERTIES

Adopted on 4 June 2010

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Substance name: TRICHLOROETHYLENE

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- *Trichloroethylene* is identified as a substance meeting the criteria of Article 57 (a) of Regulation (EC) 1907/2006 (REACH) owing to its classification as carcinogen (category 2¹).

Summary of how the substance meets the CMR² (Cat 1 or 2), PBT³ or vPvB⁴ criteria, or is considered to be a substance of an equivalent level of concern

According to Article 57 of Regulation (EC) No 1907/2006 (REACH), substances meeting the criteria for classification as carcinogen (category 1 or 2) in accordance with Directive 67/548/EEC may be included in Annex XIV.

Trichloroethylene is listed in Annex VI, part 3, Table 3.2 (the list of harmonised classification and labelling of hazardous substances from Annex I to Directive 67/548/EEC) of Regulation (EC) No 1272/2008⁵ as carcinogen category 2⁶, R45 (May cause cancer).

Therefore, this classification of the substance in Regulation (EC) No 1272/2008 shows that the substance meets the criteria for classification as carcinogen in accordance with Article 57 (a) of REACH.

Registration number(s) of the substance or of substances containing the substance:

Not relevant

¹ Category in accordance with Annex I to Council Directive 67/548/EEC

² CMR means carcinogenic, mutagenic or toxic for reproduction

³ PBT means persistent, bioaccumulative and toxic

⁴ vPvB means very persistent and very bioaccumulative

⁵ Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

⁶ This corresponds to a classification as carcinogen 1B, H350 (May cause cancer) in Annex VI, part 3, Table 3.1 of Regulation (EC) No 1272/2008 (list of harmonised classification and labelling of hazardous substances).

JUSTIFICATION

1 IDENTITY OF THE SUBSTANCE AND PHYSICAL AND CHEMICAL PROPERTIES

1.1 Name and other identifier of the substance

Chemical Name:	Trichloroethylene
EC Number:	201-167-4
CAS Number:	79-01-6
IUPAC Name:	1,1,2-trichloroethene

Synonyms for Trichloroethylene: Acetylene trichloride, Ethinyl trichloride, Trichloroethene, TRI, TRIC, 1-Chloro-2,2-dichloroethylene, 1,1,2-Trichloroethylene, Trilene, Triklone® , Trimar.

Industrial abbreviations include trichloroethylene, trichlor, Trike, Tricky and trichloroethylene.

1.2 Composition of the substance

Chemical Name:	Trichloroethylene
EC Number:	201-167-4
CAS Number:	79-01-6
IUPAC Name:	1,1,2-trichloroethene
Molecular Formula:	C ₂ HCl ₃
Structural Formula:	
Molecular Weight:	131.39 -131.5 (131.5 used in this assessment)
Typical proportion %	> 99.9 % w/w
Real proportion (range) in %	-

1.2.1 Impurities

Information extracted from EU-RAR

Tetrachloroethylene	<0.03%
1,1-dichloroethene	<0.01%
1, 1, 1-Trichloroethane	<0.01%
Chloroform	<0.01%
Carbon tetrachloride	<0.005%
Dichloromethane	<0.001%
Bromodichloromethane	< 0.1%
Water	trace

1.2.2 Additives

The stated additives present in trichloroethylene available from various suppliers included the following (% w/w) (EU-RAR):

1-Methylpyrrole	0.02 - 0.022
Diisopropylamine	< 0.005%

1.3 Physico-Chemical properties

Table 1 Summary of physico-chemical properties

REACH ref Annex, §	Property	Value	Comment/reference
VII, 7.1	Physical state at 20 C and 101.3 KPa	Colourless non flammable liquid with a characteristic odour detectable at around 20 to 30 ppm resembling that of chloroform.	EU-RAR 1.3.1
VII, 7.2	Melting / freezing point	-84 to -87 °C according to source	EU-RAR 1.3.2
VII, 7.3	Boiling point	85.9 to 88 °C according to source	EU-RAR 1.3.3
VII, 7.5	Vapour pressure	78.7 to 86 hPa at 20°C according to source	EU-RAR 1.3.5
VII, 7.7	Water solubility	according to source 1 to 2.85 g.l ⁻¹	EU-RAR 1.3.6
VII, 7.8	Partition coefficient n-octanol/water (log value)	2.29 to 2.98 according to source	EU-RAR 1.3.7
IX, 7.16	Dissociation constant	No information found	

2 CLASSIFICATION AND LABELLING

2.1 Classification in Annex VI of Regulation (EC) No 1272/2008

According to Article 57 of REACH, substances meeting the criteria for classification as carcinogenic (category 1 or 2) in accordance with Directive 67/548/EEC may be included in Annex XIV. The classification of trichloroethylene according to Directive 67/548/EEC was updated by the 28th Adaptation to Technical Progress (28th ATP; Commission Directive 2008/58/EC⁷) as follows:

Index Number: 602-027-00-9

Carc. Cat. 2; R45 (May cause cancer)

Muta. Cat. 3; R68 (Possible risk of irreversible effects)

Xi indicates 'irritant'; R36/38 (Irritating to eyes/skin)

R67 (Vapours may cause drowsiness and dizziness)

R52-53 (Harmful to aquatic organisms, May cause long term adverse effects in the aquatic environment)

S sentences: 53-45-61

In addition, Note 6 applies to the labelling of preparations that contain trichloroethylene; such preparations have to be assigned R67 if they meet the appropriate criteria.

This classification has been included in Annex VI, part 3, Table 3.2 (the list of harmonised classification and labelling of hazardous substances from Annex I to Directive 67/548/EEC) of Regulation (EC) No 1272/2008⁸ by a Commission Regulation amending, for the purposes of its adaptation to technical progress, for the first time Regulation 1272/2008 accordingly. Its harmonised classification according to part 3 of Annex VI, Table 3.1 of Regulation (EC) No 1272/2008 is accordingly:

Carc. 1B H350

Muta. 2 H341

Eye Irrit. 2 H319

Skin Irrit. 2 H315

STOT SE 3 H336

Aquatic Chronic 3 H412

2.2 Self classification(s)

Not relevant

⁷ COMMISSION DIRECTIVE 2008/58/EC of January 2001 amending, for the purpose of its adaptation to technical progress, for the 28th time, Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances.

⁸ Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

3 ENVIRONMENTAL FATE PROPERTIES

Not relevant for this proposal

4 HUMAN HEALTH HAZARD ASSESSMENT

Supplementary information to the information provided in section 2 of this report (classification information) is available for consultation in the European Risk Assessment Report (EU-RAR) (ECB, 2004).

5 HUMAN HEALTH HAZARD ASSESSMENT OF PHYSICOCHEMICAL PROPERTIES

See EU-RAR (ECB, 2004)

6 ENVIRONMENTAL HAZARD ASSESSMENT

Not relevant for this proposal

7 PBT, VPVB AND EQUIVALENT LEVEL OF CONCERN ASSESSMENT

Not relevant for this proposal

REFERENCES

European Chemical Bureau - ECB. (2004). Risk Assessment Report Trichloroethylene.

(31).http://ecb.jrc.it/Documents/Existing-Chemicals/RISK_ASSESSMENT/REPORT/trichloroethylenereport018.pdf

European Chemical Bureau - ECB. (2010). Human health and environmental risk reduction strategy for Trichloroethylene. (ES-35d-2003 Rev.1).