



**Substance Name:** 1,2-dichloroethane  
**EC Number:** 203-458-1  
**CAS Number:** 107-06-2

**MEMBER STATE COMMITTEE  
SUPPORT DOCUMENT FOR IDENTIFICATION OF**

**1,2-DICHLOROETHANE**

**AS A SUBSTANCE OF VERY HIGH CONCERN BECAUSE OF ITS  
CMR<sup>1</sup> PROPERTIES**

**Adopted on 24 November 2011**

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<sup>1</sup> CMR means carcinogenic, mutagenic or toxic for reproduction

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**Substance Name:** 1,2-dichloroethane

**EC Number:** 203-458-1

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- The substance is identified as substance meeting the criteria of Article 57 (a) of Regulation (EC) 1907/2006 REACH owing to its classification as carcinogen 1B<sup>2</sup> which corresponds to classification as carcinogen category 2<sup>3</sup>.

### **Summary of how the substance meets the Carcinogen 1B criteria**

1,2-dichloroethane is listed as Index number 602-012-00-7 in Regulation (EC) No 1272/2008 and classified in Annex VI, part 3, Table 3.1 (list of harmonised classification and labelling of hazardous substances) as carcinogen, Carc. 1B (H350: “May cause cancer.”) The corresponding classification 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 1272/2008 is carcinogen, Carc. Cat. 2, R45 (“May cause cancer.”)

Therefore, this classification of 1,2-dichloroethane in Regulation (EC) No 1272/2008 (EU, 2008) shows that the substance meets the criteria for classification as carcinogen in accordance with Article 57 (a) of REACH.

Registrations submitted for the substance: Yes.

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<sup>2</sup> Classification in accordance with Regulation (EC) No 1272/2008 Annex VI, part 3, Table 3.1 List of harmonised classification and labelling of hazardous substances.

<sup>3</sup> Classification in accordance with Regulation (EC) No 1272/2008, Annex VI, part 3, Table 3.2 List of harmonised classification and labelling of hazardous substances (from Annex I to Council Directive 67/548/EEC).

## JUSTIFICATION

### 1 IDENTITY OF THE SUBSTANCE AND PHYSICAL AND CHEMICAL PROPERTIES

#### 1.1 Name and other identifiers of the substance

**Table 1: Substance identity**

<b>EC number:</b>	203-458-1
<b>EC name:</b>	1,2-dichloroethane
<b>CAS number (in the EC inventory):</b>	107-06-2
<b>CAS number:</b>	107-06-2
<b>CAS name:</b>	Ethane, 1,2-dichloro-
<b>IUPAC name:</b>	1,2-dichloroethane
<b>Index number in Annex VI of the CLP Regulation</b>	602-012-00-7
<b>Molecular formula:</b>	C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub>
<b>Molecular weight range:</b>	98.96 g mol <sup>-1</sup>
<b>Synonyms:</b>	Ethylene dichloride, dichloroethylene, 1,2-DCE, 1,2-EDC

#### Structural formula:



**1.2 Composition of the substance****Name:** 1,2-dichloroethane**Degree of purity:** 96 – 100 % (w/w)**Table 2: Constituents**

Constituents	Typical concentration	Concentration range	Remarks
1,2-dichloroethane EC number: 203-458-1	≥98.4 % (w/w)	96 – 100 % (w/w)	Based on the registration dossier

**Table 3: Impurities (depending on the manufacturers or importers)**

Impurities	Typical concentration	Concentration range	Remarks

**Table 4: Additives**

Additives	Typical concentration	Concentration range	Remarks
<i>none</i>	/	/	/

The detailed composition of the substance is confidential and provided in the technical dossier.

### 1.3 Physico-chemical properties

**Table 5: Overview of physico-chemical properties<sup>4</sup>**

Property	Value	Remarks
Physical state at 20 °C and 101.3 kPa	liquid	
Melting/freezing point	-36 °C at 101,3 kPa	CRC Handbook and secondary literature data
Boiling point	83.6 °C at 760 mm Hg	Mumford, S.A.; Philips, J.W.C., 1950
Density	1.2455 g/cm <sup>3</sup> at 20 °C	Garcia-Gimenez, 2008
Viscosity	0.829 cP (centi-poise = mPa s) at 20 °C	Mumford, S.A.; Philips, J.W.C., 1950
Vapour pressure	10247 Pa at 25 °C	Nath, 1994
Water solubility	7.9 g/l at 25 °C	Banerjee, 1980
Partition coefficient n-octanol/water (log value)	Log Pow 1.45 at 20°C	Veith, 1980 Experimental, flask-shake method
Surface tension	32.45 dynes/cm at 20 °C	Mumford, S.A.; Philips, J.W.C., 1950
Flash point	13 °C	Bartholome , 1975
Autoignition temperature	440 °C at 101,3 kPa	Bartholome , 1975
Oxidizing properties	No oxidizing properties	Due to structural reasons
Explosive properties	No explosive properties	Due to structural reasons

<sup>4</sup> The data included in the Table 5 are based on registration dossier.

## 2 HARMONISED CLASSIFICATION AND LABELLING

1, 2-dichloroethane is listed as Index number 602-012-00-7 in Regulation (EC) No 1272/2008 and classified in Annex VI as provided in tables 6 and 7.

**Table 6: Classification according to part 3 of Annex VI, Table 3.1 (list of harmonised classification and labelling of hazardous substances) of Regulation (EC) No 1272/2008**

Index No	International Chemical Identification	Classification		Labelling			Spec. Conc. Limits, M-factors	Notes
		Hazard Class and Category Code(s)	Hazard statement code(s)	Pictogram, Signal Word Code(s)	Hazard statement code(s)	Suppl. Hazard statement code(s)		
602-012-00-7	1,2,-dichloroethane	Flam. Liq. 2 Carc. 1B Acute Tox. 4 * Eye Irrit. 2 STOT SE 3 Skin. Irrit. 2	H225 H350 H302 H319 H335 H315	GHS02 GHS08 GHS07 Dgr	H225 H350 H302 H319 H335 H315			

**Table 7: Classification according to part 3 of Annex VI, Table 3.2 (list of harmonized classification and labelling of hazardous substances from Annex I of Council Directive 67/548/EEC) of Regulation (EC) No 1272/2008**

Index No	International Chemical Identification	Classification	Labelling	Concentration Limits	Notes
602-012-00-7	1,2,-dichloroethane	F; R11 Carc. Cat. 2; R45 Xn; R22 Xi; R36/37/38	F; T R: 45-11-22-36/37/38 S: 53-45		E



### **3 ENVIRONMENTAL FATE PROPERTIES**

*Not relevant for the identification of the substance as SVHC in accordance with Article 57(a).*

### **4 HUMAN HEALTH HAZARD ASSESSMENT**

*Not relevant for the identification of the substance as SVHC in accordance with Article 57(a).*

### **5 ENVIRONMENTAL HAZARD ASSESSMENT**

*Not relevant for the identification of the substance as SVHC in accordance with Article 57(a).*

### **6 CONCLUSIONS ON THE SVHC PROPERTIES**

#### **6.1 PBT, vPvB assessment**

*Not relevant for the identification of the substance as SVHC in accordance with Article 57(a).*

#### **6.2 CMR assessment**

1,2-dichloroethane is listed as Index number 602-012-00-7 in Regulation (EC) No 1272/2008 and classified in Annex VI, part 3, Table 3.1 (list of harmonised classification and labelling of hazardous substances) as carcinogen, Carc. 1B (H350: “May cause cancer.”). The corresponding classification 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 1272/2008 is carcinogen, Carc. Cat. 2, R45 (“May cause cancer.”).

Therefore, this classification of 1,2-dichloroethane 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.

#### **6.3 Substances of equivalent level of concern assessment**

*Not relevant for the identification of the substance as SVHC in accordance with Article 57(a).*

## 7 REFERENCES

ECHA, 2010: List of substances identified for registration in 2010  
[http://echa.europa.eu/doc/echa\\_chem/list\\_identified\\_registrations\\_2010.pdf](http://echa.europa.eu/doc/echa_chem/list_identified_registrations_2010.pdf)

ESIS - European chemical Substances Information System (ESIS) at Ex-ECB website  
<http://ecb.jrc.ec.europa.eu/>

EU, 2006. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

EU, 2007. Corrigendum to Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC. Official Journal of the European Union, L136: 3-280.

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