



**Substance Name(s): 2-Methoxyethanol**

**EC number: 203-713-7**

**CAS Number: 109-86-4**

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

**2-METHOXYETHANOL**

**AS A SUBSTANCE OF VERY HIGH CONCERN BECAUSE OF ITS  
CMR PROPERTIES**

**Adopted on 25 November 2010**



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## LIST OF ABBREVIATIONS

<b>CMR</b>	<b>Carcinogenic, Mutagenic or toxic to Reproduction</b>
<b>EGME</b>	<b>2-Methoxyethanol</b>
<b>IUCLID</b>	<b>International Uniform Chemical Information Database</b>
<b>PBT</b>	<b>Persistent, Bioaccumulative and Toxic</b>
<b>SVHC</b>	<b>Substance of Very High Concern</b>
<b>vPvB</b>	<b>Very Persistent and very Bioaccumulative</b>

**Substance Name(s):** 2-Methoxyethanol (ethylene glycol monomethyl ether; EGME)

**EC Number(s):** 203-713-7

**CAS number(s):** 109-86-4

- *2-Methoxyethanol* is identified as substance meeting the criteria of Article 57 (c) of Regulation (EC) 1907/2006 (REACH) owing to its classification as toxic for reproduction 1B.

**Summary of how the substance meets the CMR (Cat 1 or 2), PBT or vPvB criteria, or is considered to be a substance giving rise to an equivalent level of concern**

2-Methoxyethanol (EGME) is listed under index number 603-011-00-4 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 as toxic to reproduction, category 2<sup>1</sup>.

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

**Registration number(s) of the substance or of substances containing a given constituent/impurity or leading to the same transformation or degradation products:**

Not relevant.

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<sup>1</sup> This corresponds to a classification as toxic for reproduction (1B) in Annex VI, part 3, Table 3.1 of Regulation (EC) No. 1272/2008 (list of harmonised classification and labelling of hazardous substances)

## PART I

### 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>	203-713-7
<b>EC name:</b>	2-methoxyethanol
<b>CAS number (in the EC inventory):</b>	109-86-4
<b>CAS number:</b>	109-86-4
<b>CAS name:</b>	Ethanol, 2-methoxy-
<b>IUPAC name:</b>	2-methoxyethanol
<b>Index number in Annex VI of the CLP Regulation</b>	603-011-00-4
<b>Molecular formula:</b>	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>
<b>Molecular weight range:</b>	76.09 g/mol
<b>Synonyms:</b>	ethylene glycol monomethyl ether; EGME

#### Structural formula:



#### 1.2 Composition of the substance

**Name:** 2-methoxyethanol

**Description:**

**Degree of purity:** >99 % w/w (according to IUCLID)<sup>2</sup>

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<sup>2</sup> <http://ecb.jrc.ec.europa.eu/IUCLID-DataSheets/109864.pdf>

**Table 2: Constituents**

Constituents	Typical concentration	Concentration range	Remarks
2-methoxyethanol	>99 % w/w		

**Table 3: Impurities**

Impurities	Typical concentration	Concentration range	Remarks
<i>unknown impurities</i>	<1 % w/w		

### 1.3 Physico-chemical properties

**Table 4: Overview of physicochemical properties, from IUCLID, amended**

Property	Value	References
Physical state at 20°C and 101.3 kPa	Colourless, viscous liquid	
Melting/freezing point	-85 °C	Hoechst AG, 17.12.1992
Boiling point	123.5 – 125.5 °C at 1013 hPa	BASF AG, 6.4.1994
Vapour pressure	10 hPa at 20°C	Hoechst AG, 28.2.1996
Water solubility	completely miscible, pH = 7 and 20°C	BASF AG, 18.3.1994 WHO, 2009
Partition coefficient n-octanol/water (log value)	Log Pow = 0.77 Calculated -0.85	BASF AG, 9.1.1989 (unpublished)
Dissociation constant	-	
Density	0.964 - 0.966 g/m <sup>3</sup> at 20°C	BASF AG, 6.4.1994
Flash point	39 °C (close cup)	CHEMSAFE, 1996
Explosion limits in air	Lower: 2.5 vol%, Upper: 20 vol%	CHEMSAFE, 1996
Auto-ignition temperature	285 oC (DIN 51794)	CHEMSAFE, 1996

## 2 HARMONISED CLASSIFICATION AND LABELLING

2-Methoxyethanol is classified and labelled according to Annex VI of Reg. (EC) No 1272/2008, Annex VI, Table 3.1. as follows:

Index Number: 603-011-00-4

### *Hazard Class and Category Codes*

Flam. Liq. 3

Repr. 1B

Acute Tox. 4 \*<sup>3</sup>

Acute Tox. 4 \*

Acute Tox. 4 \*

### *Hazard statement Codes*

H226

H360FD

H332

H312

H302

### *Pictogram Signal Word Code(s)*

GHS02

GHS08

GHS07

Dgr

*Specific Conc. Limits; M-factors; Notes:* none

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<sup>3</sup> Minimum classification for a category is indicated by the reference \* in the column 'Classification' in Table 3.1.

For certain hazard classes, including acute toxicity and STOT repeated exposure; the classification according to the criteria in Directive 67/548/EEC does not correspond directly to the classification in a hazard class and category under this Regulation. In these cases the classification in this Annex shall be considered as a minimum classification. This classification shall be applied if none of the following conditions are fulfilled:

— the manufacturer or importer has access to data or other information as specified in Part 1 of Annex I that lead to classification in a more severe category compared to the minimum classification. Classification in the more severe category must then be applied;

— the minimum classification can be further refined based on the translation table in Annex VII when the physical state of the substance used in the acute inhalation toxicity test is known to the manufacturer or importer. The classification as obtained from Annex VII shall then substitute the minimum classification indicated in this Annex if it differs from it.

Classification and Labelling of EGME according to Reg. (EC) No 1272/2008, Annex VI, Table 3.2:

Index Number: 603-011-00-4

*Classification*

R10

Repr. Cat. 2; R60-61

Xn; R20/21/22

*Labelling*

T

R: 60-61-10-20/21/22

S: 53-45

### **3 ENVIRONMENTAL FATE PROPERTIES**

Not relevant for this type of dossier.

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

See section 2 on Harmonised Classification and Labelling.

### **5 ENVIRONMENTAL HAZARD ASSESSMENT**

Not relevant for this type of dossier.

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

#### **6.1 CMR assessment**

2-Methoxyethanol (EGME) is listed as entry 603-011-00-4 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 as toxic to reproduction, category 2. This corresponds to a classification as toxic for reproduction (1B) in Annex VI, part 3, Table 3.1 of Regulation (EC) No. 1272/2008 (list of harmonised classification and labelling of hazardous substances).

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



**7 REFERENCES**

BASF AG (1998). Labor für Umweltanalytik, unpublished study (9.1.1989)

CHEMSAFE (1996). <http://www.dechema.de/Chemsafe.html#Internet>

Hoechst AG (1995). EU Safety Data Sheet Methylglykol (8.2.1995)

Hoechst AG (1992). Abteilung Verkauf Chemikalien Produktinformation Methylglykol (17.12.1992)

Hoechst AG (1994). EU Safety Data Sheet Methylglykol (18.3.1994)

WHO (2009). Concise International Chemical Assessment Document 67 “Selected Alkoxyethanols: 2-Methoxyethanol. <http://www.who.int/ipcs/publications/cicad/methoxyethanol.pdf>