Substance name: Cobalt dichloride
EC number: 231-589-4
CAS number: 7646-79-9

MEMBER STATE COMMITTEE

SUPPORT DOCUMENT FOR IDENTIFICATION OF COBALT DICHLORIDE AS A SUBSTANCE OF VERY HIGH CONCERN

Adopted on 1 October 2008

CONTENTS

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- *The substance is identified as a CMR according to Article 57 (a) of Regulation (EC) No 1907/2006 (REACH).*

Summary of the evaluation:

According to Annex I to Directive 67/548/EEC Cobalt Dichloride is classified as a carcinogen Carc. Cat. 2, R49 (may cause cancer by inhalation).

JUSTIFICATION

1 IDENTITY OF THE SUBSTANCE AND PHYSICAL AND CHEMICAL PROPERTIES

1.1 Name and other identifiers of the substance

Chemical Name: Cobalt Dichloride

EC Number: 231-589-4

CAS Number: 7646-79-9

IUPAC Name: Cobalt(2+) dichloride

Molecular Formula: $CoCl_2$

Structural Formula: 

Molecular Weight: 129.84 g/mol

1.2 Composition of the substance

Typical concentration (% w/w):

Around 99% (provided as a solution containing CoCl2 at a typical concentration of 27- 28 % w/w. Concentration of CoCl2 in crystal is around 54 % w/w).

Concentration range (% w/w):

Not available

1.3 Physico-chemical properties

Table 1: Summary of physico-chemical properties

REACH ref Annex,§	Property	IUCLID section	Value
VII, 7.1	Physical state at 20°C and 101.3 kPa	4.1	Solid (crystals)
VII, 7.2	Melting point	4.2	724 °C
VII, 7.3	Boiling point	4.3	1049 °
VII, 7.5	Vapour pressure	4.6	40 mmHg at 770°C
VII, 7.7	Water solubility	4.8	76.7g/100ml at 0°C
VII, 7.8	Partition coefficient n octanol/water (log value)	4.7	Not available
IX, 7.16	Dissociation constant	4.21	Not available

2 CLASSIFICATION AND LABELLING

2.1 Classification in Annex I of Directive 67/548/EEC

Cobalt Dichloride is classified, according to the 25th ATP, updated in the 29th ATP of Annex I of Directive 67/548/EEC as:

- Carc. Cat. 2, R49 (May cause cancer by inhalation)
- Xn; R22 (Harmful if swallowed)
- R42/43 (May cause sensitization by inhalation and skin contact)
- R50/53 (Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment)

It has been included in annex I under index number 027-004-00-5.

Safety Phrases:

- S2: Keep out of the reach of children.
- S22: Do not breathe dust.
- S53: Avoid exposure - obtain special instructions before use.
- S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S60: This material and its container must be disposed of as hazardous waste.
- S61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

Special Concentration Limits:

Concentration	**Classification**
C > 25 %	T, N; R49-22-42/43-50/53
2, 5 % < C < 25 %	T, N; R49-22-42/43-51/53
1 % < C < 2,5 %	T; R49-42/43-52/53
0,25 % < C < 1 %	T; R49-52/53
0,01 % < C < 0, 25 %	T; R49

2.2 Self classification(s)

No self classification

REFERENCES

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Criteria Document for Swedish Occupational Standards: Cobalt and Cobalt Compounds, National Institute for Working Life, 2005

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 52, November 1997.

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Group on the Classification and Labelling of Dangerous Substances, version ECBI/27/98 Rev.2, December 1998.