Substance name: Potassium Chromate
EC number: 232-140-5
CAS number: 7789-00-6

MEMBER STATE COMMITTEE SUPPORT DOCUMENT FOR IDENTIFICATION OF

POTASSIUM CHROMATE

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

Adopted on 4 June 2010

CONTENTS

TABLES

Substance Name: Potassium Chromate

EC Number: 232-140-5

CAS number: 7789-00-6

- *Potassium chromate* is identified as a substance meeting the criteria of Article 57 (a) and (b) of Regulation (EC) No 1907/2006 (REACH) owing to its classification as carcinogen (category 2[1]) and mutagen (category 2[1]).

Summary of the evaluation:

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

Potassium chromate 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[2]) of Regulation (EC) No 1272/2008[3] as carcinogen category 2[4], R49 and as mutagen category 2[5], R46 (May cause heritable genetic damage). Consequently, this classification of potassium chromate in Regulation (EC) No 1272/2008 shows that the substance meets the criteria for classification as carcinogen and mutagen in accordance with Article 57 (a) and Article 57 (b) of REACH..

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

[2] The classification of sodium chromate is according to Commission Directive 2004/73/EC of 29 April 2004 adapting to technical progress for the twenty-ninth 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

[3] 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.

[4] This corresponds to a classification Carc. 1B; H350i (May cause cancer by inhalation) in Annex VI, part 3, Table 3.1 of Regulation (EC) No 1272/2008 (list of harmonised classification and labelling of hazardous substances)

[5] This corresponds to a classification Muta. 1B; H340 (May cause genetic defects) in Annex VI, part 3, Table 3.1 of Regulation (EC) No 1272/2008 (list of harmonised classification and labelling of hazardous substances).

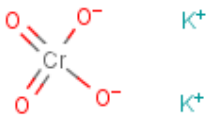
JUSTIFICATION

1 IDENTITY OF THE SUBSTANCE AND PHYSICAL AND CHEMICAL PROPERTIES

1.1 Name and other identifiers of the substance

Chemical Name:	Potassium chromate
EC Number:	232-140-5
CAS Number:	7789-00-6
IUPAC Name:	Dipotassium chromate
Synonyms:	Dipotassium chromate, Bipotassium chromate, Dipotassium monochromate, Bipotassium monochromate, Neutral potassium chromate, Potassium chromate (VI), Chromate of potash (potass), Chromic acid dipotassium salt

1.2 Composition of the substance

Chemical Name:	Potassium chromate
EC Number:	232-140-5
CAS Number:	7789-00-6
IUPAC Name:	Dipotassium chromate
Molecular Formula (Hill):	K_2CrO_4
Molecular Formula (CAS):	$CrH_2O_4.2K$
Structural Formula:	
Molecular Weight:	194.19 g/mol
Typical concentration (% w/w):	99 to 99.9% (reagent, technical)

1.3 Physico-chemical properties

Physico-chemical parameters such as boiling point, octanol-water partition coefficient and vapour pressure have little meaning for solid ionic inorganic compounds.

Table 1: Summary of physico-chemical properties

REACH ref Annex, §	Property	Value	Reference
VII, 7.1	Physical state at 20°C and 101.3 kPa	Yellow orthorhombic crystals (odorless)	(HSDB, 2005)
VII, 7.2	Melting/freezing point (°C)	975	(HSDB, 2005)
VII, 7.3	Boiling point	n/a: inorganic ionic compound	
VII, 7.4	Relative density at 18°C	2.73	(HSDB, 2005)
VII, 7.5	Vapour pressure	n/a: inorganic ionic compound	(E.C., 2005)
VII, 7.7	Water solubility at 20°C (g/L)	629	(HSDB, 2005)
VII, 7.8	Partition coefficient n-octanol/water (log value)	n/a: inorganic ionic compound	(E.C., 2005)

2 CLASSIFICATION AND LABELLING

According to Article 57 of Regulation 1907/2006 (the REACH Regulation), substances meeting the criteria for classification as carcinogenic (category 1 or 2) or as mutagenic (category 1 or 2) in accordance with Council Directive 67/548/EEC may be included in Annex XIV.

Potassium chromate has index number 024-006-00-8 in Annex VI, part 3, Tables 3.1 and 3.2 of Regulation (EC) No 1272/2008.

Potassium chromate is classified in Annex VI (part 3, Tables 3.1 and 3.2) of Regulation (EC) No 1272/2008 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.

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

Classification	Labelling	Concentration Limits	Notes
Carc. Cat. 2; R49 Muta. Cat. 2; R46 Xi; R36/37/38 R43 N; R50-53	T; N R: 49-46-36/37/38- 43-50/53 S: 53-45-60-61	R43: C ≥ 0.5 %	E 3

Key:
Carc.: Carcinogenic; Muta.: Mutagenic
R49: May cause cancer by inhalation
R46: May cause heritable genetic damage
R36/37/38: Irritating to eyes, respiratory system and skin
R43: May cause sensitization by skin contact
R50-53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
Xi: Irritant
N: Dangerous for the environment
T: Toxic
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
Note E : Substances with specific effects on human health that are classified as carcinogenic, mutagenic and/or toxic for reproduction in categories 1 or 2 are ascribed Note E if they are also classified as very toxic (T+), toxic (T) or harmful (Xn). For these substances, the risk phrases R20, R21, R22, R23, R24, R25, R26, R27, R28, R39, R68 (harmful), R48 and R65 and all combinations of these risk phrases shall be preceded by the word 'Also'.
Note 3 : The concentration stated is the percentage by weight of chromate ions dissolved in water calculated with reference to the total weight of the mixture

Its harmonised classification according to part 3 of Annex VI, Table 3.1 of Regulation (EC) No 1272/2008 is:

Classification		**Labelling**		**Specific Conc. Limits, M-factors**	**Notes**
Hazard Class and Category Code(s)	**Hazard statement Code(s)**	**Pictogram, Signal Word Code(s)**	**Hazard statement Code(s)**		
Carc. 1B Muta. 1B Eye Irrit. 2 STOT SE 3 Skin Irrit. 2 Skin Sens. 1 Aquatic Acute 1 Aquatic Chronic 1	H350i H340 H319 H335 H315 H317 H400 H410	GHS08 GHS07 GHS09 Dgr	H350i H340 H319 H335 H315 H317 H410	Skin Sens. 1; H317: C ≥ 0.5 %	3

Key:
Carc. 1 B: Carcinogenicity; Muta. 1B: Germ cell mutagenicity; Eye Irrit.2: Serious eye damage/eye irritation; STOT SE 3: Specific target organ toxicity - single exposure; Skin Irrit. 2: Skin corrosion/irritation; Skin Sens. 1: Respiratory/skin sensitization
Aquatic Acute 1, Aquatic Chronic 1: Hazardous to the aquatic environment
H350i: May cause cancer by inhalation
H340: May cause genetic defects
H319: Causes serious eye irritation
H335: May cause respiratory irritation
H315: Causes skin irritation
H317: May cause an allergic skin reaction
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects
GHS08: Health hazard
GHS07: Exclamation mark
GHS09: Environment
Dgr: Danger
Note 3: The concentration stated is the percentage by weight of chromate ions dissolved in water calculated with reference to the total weight of the mixture

REFERENCES

E.C. (2005). European Union Risk Assessment Report - Chromium trioxide (CAS-No: 1333-82-0), sodium chromate (CAS-No:7775-11-3), sodium dichromate (CAS-No: 10588-01-9), ammonium dichromate (CAS-No: 7789-09-5) and potassium dichromate (CAS-No: 7778-50-9) Risk Assessment. 415 p. (EUR 21508 EN - Volume: 53).

HSDB. Hazardous Substances Data Bank. (2005). http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>