Substance name: Strontium chromate
EC number: 232-142-6
CAS number: 7789-06-2

MEMBER STATE COMMITTEE SUPPORT DOCUMENT FOR IDENTIFICATION OF

STRONTIUM CHROMATE

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

Adopted on 20 May 2011

CONTENTS

TABLES

LIST OF ABBREVIATIONS

CMR	Carcinogenic, Mutagenic or toxic to Reproduction
PBT	Persistent, Bioaccumulative and Toxic
SVHC	Substance of Very High Concern
vPvB	very Persistent and very Bioaccumulative

Substance Name: Strontium chromate

EC Number(s): 232-142-6

CAS number(s): 7789-06-2

- The substance 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 1B [1] which corresponds to classification as carcinogen category 2[2]

Summary of how the substance meets the CMR (1A or 1B) criteria

Strontium chromate is listed as index number 024-009-00-4 of Regulation (EC) No 1272/2008 and classified in Annex VI, part 3, Table 3.1 (the 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 and 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 the substance in Regulation (EC) No 1272/2008 shows that it meets the criteria for classification as carcinogen in accordance with Article 57 (a) of REACH.

Registration dossiers of the substance submitted: Yes

[1] 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.

[2] 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

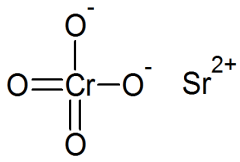
1 IDENTITY OF THE SUBSTANCE AND PHYSICAL AND CHEMICAL PROPERTIES

1.1 Name and other identifiers of the substance

Table 1: Substance identity

EC number:	232-142-6
EC name:	strontium chromate
CAS number (EC inventory):	7789-06-2
CAS name:	Chromic acid (H2CrO4), strontium salt (1:1)
IUPAC name:	Strontium chromate
Annex I index number:	024-009-00-4
Molecular formula:	SrCrO4
Molecular weight range:	203.61
Synonyms	Chromium diolatodioxo-strontium salt (1:1), C.I. Pigment Yellow 32, Deep Lemon Yellow, Strontium chromate (VI), Strontium Yellow
Main trade names	Citron Yellow, Delta Strontium Chromate, Micronized Strontium Chromate, Strontaine Yellow, Strontium Chrome Yellow, Strontium chromate 12170, Ultramarine Yellow

Structural formula:



1.2 Composition of the substance

Name: Strontium chromate

Description: The substance strontium chromate is a mono constituent inorganic substance having the following characteristics and physical–chemical properties.

Degree of purity: > 96.0 % (w/w)

Table 2: Constituents

Constituent	Typical concentration	Concentration range	Remarks
Strontium chromate EC n°: 232-142-6	ca. 97.0 % (w/w)	96 < [C] <100 % (w/w)	

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

Impurities	Typical concentration	Concentration range	Remarks
Barium chromate EC n°: 233-660-5	≤ 3.0 % (w/w)		
Barium EC n°: 231-149-1	< 4.0 % (w/w)		
Sodium EC n°: 231-132-9	< 4.0 % (w/w)		
Water EC n°: 231-791-2	≤ 0.5 % (w/w)		
Unknown impurities	1 ≥ [C] < 3.58 % (w/w)		

Table 4: Additives

Additive	Typical concentration	Concentration range	Remarks

1.3 Physico-chemical properties

Table 5: Overview of physicochemical properties

Property	Value	Remarks
Physical state at 20°C and 101.3 kPa	Light yellow powder or granular solid. Yellow monoclinic crystals.	
Melting/freezing point	Decomposes at ca. 500 °C into chromium (III) oxyde	
Boiling point	n/a	
Vapour pressure	n/a	
Relative density	3.9 g/cm³ at 20 °C	
Water solubility	Very slightly soluble in cold water ca. 1.2 g/l at 20 °C ca. 30 g/l at 100°C	Source : HSDB database (2005)
Partition coefficient n-octanol/water (log value)	n/a inorganic compound	
Dissociation constant	n/a	
Oxidising properties	Oxidant (according to the literature)	Sources: IPCS-Inchem CEC (2004) NIOSH International Chemical Safety Card (2004)
Granulometry	Particle size mass median diameter is 3.64 µm	

2 HARMONISED CLASSIFICATION AND LABELLING

Strontium chromate is covered by index number 024-009-00-4 in Annex VI, part 3, Tables 3.1 and 3.2 of Regulation (EC) No 1272/2008 as follows:

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

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 Acute Tox. 4 * Aquatic Acute 1 Aquatic Chronic 1	H350 H302 H400 H410	GHS08 GHS07 GHS09 Dgr	H350 H302 H400 H410		

Key:
Carc. 1 B: Carcinogenicity
Acute Tox. 2, Tox. 3, Tox. 4: Acute toxicity
Aquatic Acute 1, Aquatic Chronic 1: Hazardous to the aquatic environment
H302: Harmful if swallowed
H350: May cause cancer
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

Table 7: 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

Classification	Labelling	Concentration Limits	Notes
Carc. Cat. 2; R45 Xn; R22 N; R50-53	T; N R: 45-22-50/53 S: 53-45-60-61		E

Key:
Carc.: Carcinogenic
Xn: Harmful
N: Dangerous for the environment
R45: May cause cancer
R22: Harmful if swallowed
R50-53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
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'.

3 ENVIRONMENTAL FATE PROPERTIES

Not relevant for this dossier.

4 HUMAN HEALTH HAZARD ASSESSMENT

Contrary to five other hexavalent chromium compounds (potassium dichromate, ammonium dichromate, sodium chromate, chromium trioxide, and sodium dichromate) strontium chromate was not placed on the third list of substances for assessment within the European Union's (EU) Existing Substances Regulation (ESR) 793/93 and consequently was not subjected to a risk assessment.

5 ENVIRONMENTAL HAZARD ASSESSMENT

Not relevant for this dossier.

6 CONCLUSIONS ON THE SVHC PROPERTIES

6.1 PBT, vPvB assessment

Not relevant for this dossier.

6.2 CMR assessment

Strontium chromate is covered by index number 024-009-00-4 of Regulation (EC) No 1272/2008 and classified in Annex VI, part 3, Table 3.1 (the 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 and 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 the substance in Regulation (EC) No 1272/2008 shows that it 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 (c).

REFERENCES

HSDB (2005). Hazardous Substances Data Bank. Strontium chromate.. http://toxnet.nlm.nih.gov/cgi-bin/sis/search/a?dbs+hsdb:@term+@DOCNO+2546

IPCS-Inchem (2004) - International Programme on Chemical Safety / Commission of the European Communities. Strontium chromate ICSC 0957.

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NIOSH (2004) – National Institute for Occupational Safety and Health. International Chemical Safety Cards. Strontium chromate ICSC 0957.

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