



Substance name: Dichromium tris(chromate)
EC number: 246-356-2
CAS number: 24613-89-6

**MEMBER STATE COMMITTEE
SUPPORT DOCUMENT FOR IDENTIFICATION OF
DICHRONIUM TRIS(CHROMATE)
AS A SUBSTANCE OF VERY HIGH CONCERN BECAUSE OF ITS
CMR¹ PROPERTIES**

Adopted on 24 November 2011

¹ CMR means carcinogenic, mutagenic or toxic for reproduction

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Substance Name: Dichromium tris(chromate)

EC Number(s): 246-356-2

CAS Number(s): 24613-89-6

- 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 1B² which corresponds to classification as carcinogen category 2³

Summary of how the substance meets the Carcinogen 1B criteria

Dichromium tris(chromate) is listed as index number 024-010-00-X in 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 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 dichromium tris(chromate) 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

² 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.

³ 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).

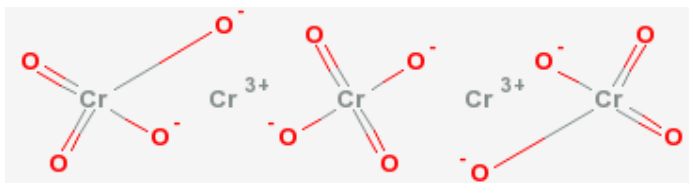
JUSTIFICATION

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:	246-356-2
EC name:	dichromium tris(chromate)
CAS number (EC inventory):	24613-89-6
CAS name:	Chromic acid (H ₂ CrO ₄), chromium(3+) salt (3:2)
IUPAC name:	Dichromium(3+) trichromate
Index number in Annex VI of the CLP Regulation:	024-010-00-X
Molecular formula:	Cr ₅ O ₁₂ CrH ₂ O _{4.2/3} Cr
Molecular weight range:	452
Synonyms	Chromic chromate, Chromium (III) chromate, Dichromium trischromate
Main trade names	Accomet C; other trade names are confidential

Structural formula:**1.2 Composition of the substance**

Name: Dichromium tris(chromate)

Description: Mixed chromium III, chromium VI salt formed when chromic acid solution is partially reduced.

Degree of purity: $\geq 80\%$ (w/w), $\leq 97\%$ (w/w)

Table 2: Constituents

Constituent	Typical concentration	Concentration range	Remarks
Dichromium tris(chromate) EC n°: 246-356-2	ca. 90 % (w/w)	$80 \leq [C] \leq 97\%$ (w/w)	

Table 3: Impurities

Impurities	Typical concentration	Concentration range	Remarks
/	/	/	/

Table 4: Additives

Additives	Typical concentration	Concentration range	Remarks
none	/	/	/

1.3 Physico-chemical properties

Table 5: Overview of physicochemical properties

Property	Value
Physical state at 20°C and 101.3 kPa	Freeze-dried dichromium tris(chromate) is a dark purple/black granular solid, with an amorphous non-crystalline structure.
Melting/freezing point	The substance melts above 300°C
Boiling point	n/a
Vapour pressure	n/a
Relative density	2.269 g/cm ³ at 20°C
Water solubility	96.6 g/L at 20°C.
Partition coefficient n-octanol/water (log value)	n/a inorganic compound
Dissociation constant	n/a
Oxidising properties	Oxidizing solid according to the CLP (Ox. Sol. 1)
Granulometry	Not known

2 HARMONISED CLASSIFICATION AND LABELLING

Dichromium tris(chromate) is listed as index number 024-010-00-X 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)		
Ox. Sol. 1	H271	GHS03	H271		T
Carc. 1B	H350	GHS08	H350		
Skin Corr. 1A	H314	GHS05	H314		
Skin Sens. 1	H317	GHS07	H317		
Aquatic Acute 1	H400	GHS09	H410		
Aquatic Chronic 1	H410	Dgr			
<p>Key: Ox. Sol. 1 : Oxidising solids Carc. 1 B: Carcinogenicity Skin Corr. 1A : Skin corrosion Skin Sens. 1 : Skin sensitisation Aquatic Acute 1, Aquatic Chronic 1: Hazardous to the aquatic environment</p> <p>H271: May cause fire or explosion; strong oxidiser H350: May cause cancer H314: Causes severe skin burns and eye damage H317: May cause an allergic skin reaction H400: Very toxic to aquatic life H410: Very toxic to aquatic life with long lasting effects GHS03: Flame over circle GHS08: Health hazard GHS05: Corrosion GHS07: Exclamation mark GHS09: Environment Dgr: Danger</p> <p>Note T : This substance may be marketed in a form which does not have the physical hazards as indicated by the classification in the entry in Part 3. If the results of the relevant method or methods in accordance with Part 2 of Annex I of this Regulation show that the specific form of substance marketed does not exhibit this physical property or these physical hazards, the substance shall be classified in accordance with the result or results of this test or these tests. Relevant information, including reference to the relevant test method(s) shall be included in the safety data sheet.</p>					

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
O; R8 Carc. Cat. 2; R45 C; R35 R43 N; R50-53	O; T; C; N R: 45-8-35-43-50/53 S: 53-45-60-61		
<p><u>Key:</u> O: Oxidising properties Carc.: Carcinogenic C: Corrosion N: Dangerous for the environment R8: Oxidising; Contact with combustible material may cause fire R45: May cause cancer R35: Corrosive; Causes severe burns R43: May cause sensitisation by skin contact 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</p>			

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

Contrary to five other hexavalent chromium compounds (potassium dichromate, ammonium dichromate, sodium chromate, chromium trioxide, and sodium dichromate) dichromium tris(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 human risk assessment.

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

Dichromium tris(chromate) is listed as index number 024-010-00-X in 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 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 dichromium tris(chromate) 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 (a).

7 REFERENCES

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.

EU, 2009. Regulation (EC) No 552/2009 of 22 June 2009 amending Regulation (EC) No 1907/2006 as regards of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards Annex XVII. Official Journal of the European Union, L164: 7-31.

EU, 2008. 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