

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Supersedes date 01-Mar-2018

Revision date 24-Nov-2025

Revision Number 4

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s)	00267
Safety data sheet number	00267
Product Name	CHROMIUM TRIOXIDE
Index No	024-001-00-0
EC Number	215-607-8
CAS No	1333-82-0
Synonyms	CHROMIC ACID, CHROMIUM (VI) OXIDE, CHROMIC ANHYDRIDE, CHROME ACID FLAKES, CA ULTRA
Pure substance/mixture	Substance
Formula	$O=(Cr)(=O)=O$
Molecular weight	100 g/mol

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use	Restricted to professional users Catalyst Chemical intermediate Industrial application Laboratory chemicals Metal surface treatment REACH/20/18/12: Functional chrome plating where any of the following key functionalities is necessary for the intended use: wear resistance, hardness, layer thickness, corrosion resistance, coefficient of friction, or effect on surface morphology. REACH/20/18/19: Surface treatment for applications in the aeronautics and aerospace industries, unrelated to functional chrome plating or functional chrome plating with decorative character, where any of the following key functionalities is necessary for the intended use: corrosion resistance / active corrosion inhibition, chemical resistance, hardness, adhesion promotion (adhesion to subsequent coating or paint), temperature resistance, resistance to embrittlement, wear resistance, surface properties impeding deposition of organisms, layer thickness, flexibility, and resistivity. REACH/20/18/26: Surface treatment (except passivation of tin-plated steel (electrolytic tin plating – ETP)) for applications in architectural, automotive, metal manufacturing and finishing, and general engineering industry sectors, unrelated to functional chrome plating or functional chrome plating with decorative character, where any of the following key functionalities is necessary for the intended use: corrosion resistance/ active corrosion inhibition, layer thickness, humidity resistance, adhesion promotion (adhesion to subsequent coating or paint), resistivity, chemical resistance, wear resistance, electrical conductivity, compatibility with substrate, (thermo) optical properties (visual appearance), heat resistance, food safety, coating tension, electric insulation or deposition speed. REACH/20/18/33: Passivation of tin-plated steel (electrolytic tin plating – ETP. The remaining use (Use 3: decorative chrome plating) applied for has not yet received its
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decision as the Commission requested the submission of a substitution plan prior taking a decision. Until a decision is taken, use is permitted via transitional arrangements. The remaining use (Use 3: decorative chrome plating) applied for has not yet received its decision as the Commission requested the submission of a substitution plan prior taking a decision. Until a decision is taken, use is permitted via transitional arrangements.

REACH/20/18/5: Formulation of mixtures exclusively for uses REACH/20/18/7 to REACH/20/18/34.

For further information, see attached Exposure Scenario

1.3. Details of the supplier of the safety data sheet

Supplier

Univar Solutions UK Ltd
Aquarius House
6 Mid Point Business Park
Bradford
GBR

For further information, please contact

E-mail address SDS.EMEA@univarsolutions.com

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

1.4. Emergency telephone number

Emergency Telephone SGS - +32 (0)3 575 55 55 (24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Oxidising solids	Category 1 - (H271)
Acute toxicity - Oral	Category 3 - (H301)
Acute toxicity - Dermal	Category 3 - (H311)
Acute toxicity - Inhalation (Dusts/Mists)	Category 2 - (H330)
Skin corrosion/irritation	Category 1 - (H314)
Respiratory sensitisation	Category 1 - (H334)
Skin sensitisation	Category 1 - (H317)
Germ cell mutagenicity	Category 1B - (H340)
Carcinogenicity	Category 1A - (H350)
Reproductive toxicity	Category 2 - (H361f)
Specific target organ toxicity — single exposure	Category 3 - (H335)
Category 3 Respiratory irritation	
Specific target organ toxicity — repeated exposure	Category 1 - (H372)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)

2.2. Label elements



Signal word

Danger

Hazard statements

H301 - Toxic if swallowed
 H311 - Toxic in contact with skin
 H314 - Causes severe skin burns and eye damage
 H317 - May cause an allergic skin reaction
 H330 - Fatal if inhaled
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
 H340 - May cause genetic defects
 H350 - May cause cancer
 H361f - Suspected of damaging fertility
 H372 - Causes damage to organs through prolonged or repeated exposure
 H410 - Very toxic to aquatic life with long lasting effects
 H271 - May cause fire or explosion; strong oxidiser
 Restricted to professional users

Precautionary statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
 P220 - Keep/Store away from clothing/ combustible materials
 P262 - Do not get in eyes, on skin, or on clothing
 P260 - Do not breathe dust/fume/gas/mist/vapours/spray
 P273 - Avoid release to the environment
 P308 + P313 - IF exposed or concerned: Get medical advice/attention

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
CHROMIUM TRIOXIDE 1333-82-0	100%	215-607-8 (024-001-00-0)	UK-01-1742267017-8-0001	Ox. Sol. 1 (H271) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 2 (H330) Skin Corr. 1A (H314) Skin Sens. 1 (H317) Resp. Sens. 1 (H334) Muta. 1B (H340) Carc. 1A (H350) Repr. 2 (H361f) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	STOT SE 3 (H335):: C>=1%	1	1

Full text of H- and EUH-phrases: see section 16

Chemical name	CAS No	SVHC candidates
CHROMIUM TRIOXIDE	1333-82-0	X

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention. Never give anything by mouth to an unconscious person.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Immediate medical attention is required.
Eye contact	Get immediate medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin contact	Wash off immediately with plenty of water. Get immediate medical attention.
Ingestion	Rinse mouth thoroughly with water. Do NOT induce vomiting. Get immediate medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause cancer by inhalation. May cause respiratory irritation.
Eyes	Causes serious eye damage.
Dermal	Causes severe burns. May cause an allergic skin reaction. Toxic in contact with skin. Repeated exposure to this material can result in absorption through skin causing significant health hazard.
Ingestion	Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitisation in susceptible persons. Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Foam. Carbon dioxide (CO ₂). Water spray.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	May cause fire or explosion; strong oxidiser. Containers can burst violently when heated, due to excess pressure build-up. Exposure to combustion products may be a hazard to health.
Hazardous combustion products	May emit toxic fumes under fire conditions.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Fight fire remotely due to the risk of explosion. Cool containers with flooding quantities of water until well after fire is out. Collect contaminated fire extinguishing water separately. Do not allow it to enter drains or surface water.
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SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions	Keep people away from and upwind of spill/leak. Keep unnecessary and unprotected personnel from entering. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not touch or walk through spilled material. Use personal protection recommended in Section 8.
Other information	Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Prevent entry into drains. Do not allow runoff to sewer, waterway or ground. Local authorities should be advised if significant spillages cannot be contained.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Sweep up and shovel into suitable containers for disposal. Ventilate the area.
Methods for cleaning up	Clean contaminated objects and areas thoroughly observing environmental regulations. Avoid generation of dust.
Prevention of secondary hazards	Observe good chemical hygiene practices.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.
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SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Avoid contact with eyes, skin and clothing. Avoid generation of dust. Do not breathe dust. Use personal protection recommended in Section 8. In case of inadequate ventilation wear respiratory protection.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using the product. Remove contaminated clothing and protective equipment before entering eating areas. Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals. Strong acids. Strong bases. Reducing agents. Organic material. Combustible material. Keep/store only in original container. Keep container closed when not in use.

7.3. Specific end use(s)

Specific use(s)

See section 1 for more information.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	United Kingdom
CHROMIUM TRIOXIDE 1333-82-0	0.01 mg/m ³ (as Cr) 0.025 mg/m ³ (process generated) +

Biological occupational exposure limits

Chemical name	United Kingdom
CHROMIUM TRIOXIDE 1333-82-0	10 µmol Chromium/mol creatinine in urine Post shift

Derived No Effect Level (DNEL) - Workers No information available

Derived No Effect Level (DNEL) - General Public No information available.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
CHROMIUM TRIOXIDE 1333-82-0	0.0034 mg/L		0.0034 mg/L		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
CHROMIUM TRIOXIDE 1333-82-0	0.15 mg/kg sediment dw	0.15 ng/kg sediment dw	0.21 mg/L	0.031 mg/kg soil dw	17000 g/kg food

8.2. Exposure controls

Engineering controls Ensure adequate ventilation. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166.

Hand protection Chemical resistant gloves required for prolonged or repeated contact. Gloves must conform to standard EN 374. Examples of preferred glove barrier materials include: Polyvinyl chloride (PVC). Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.

Skin and body protection Wear appropriate clothing to prevent reasonably probable skin contact. Wear fire resistant or flame retardant clothing.

Respiratory protection Approved respirator may be necessary if local exhaust ventilation is not adequate.
Recommended filter type: Particulates filter conforming to EN 143. P3SL.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using the product. Remove contaminated clothing and protective equipment before entering eating areas. Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash it before reuse.

Environmental exposure controls Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Flakes
Colour	dark red
Odour	Odourless.
Odour threshold	No information available

Property	Values
Melting point / freezing point	196 °C
Initial boiling point and boiling range	
Flammability	
Flammability Limit in Air	
Upper flammability or explosive	

Remarks • Method
 No information available.
 No information available.
 The product is not flammable.
 Not applicable.

limits		
Lower flammability or explosive limits		
Flash point		Not applicable.
Autoignition temperature		Not applicable.
Decomposition temperature	250 °C	No information available.
pH		No information available.
pH (as aqueous solution)	1	solution (1 %).
Kinematic viscosity		Not applicable.
Dynamic viscosity		Not applicable.
Water solubility	Soluble in water	@ 20 °C.
Solubility(ies)	1667 g/l	No information available.
Partition coefficient		Not applicable. Inorganic substance.
Vapour pressure		No information available.
Relative density		No information available.
Bulk density	2.7 g/cm ³	No information available.
Liquid Density	No information available	No information available.
Relative vapour density		No information available.
Particle characteristics		No information available.
Particle Size	No information available	
Particle Size Distribution	No information available	
Explosive properties	No information available	
Oxidising properties	May cause fire or explosion; strong oxidiser	
9.2. Other information		
Molecular weight	100 g/mol	

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Thermal decomposition can lead to release of toxic and corrosive gases/vapours.

10.2. Chemical stability

Stability May cause fire or explosion; strong oxidiser.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Not determined.

10.4. Conditions to avoid

Conditions to avoid Extremes of temperature and direct sunlight. Heat, flames and sparks. To avoid thermal decomposition, do not overheat.

10.5. Incompatible materials

Incompatible materials Strong acids. Strong bases. Metals. Finely powdered metals. Reducing agents. Organic material.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition can lead to release of toxic/corrosive gases and vapours. Carbon oxides. Fume.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation	Fatal if inhaled.
Eye contact	Causes serious eye damage.
Skin contact	Toxic in contact with skin.
Ingestion	Toxic if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause cancer by inhalation. May cause respiratory irritation. Repeated exposure to this material can result in absorption through skin causing significant health hazard. Swallowing a small quantity of this material will result in serious health hazard.
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Acute toxicity

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
CHROMIUM TRIOXIDE	= 80 mg/kg (Rat)	= 57 mg/kg (Rabbit)	= 217 mg/m ³ (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Causes severe burns.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Causes serious eye damage.
Respiratory or skin sensitisation	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	Contains a known or suspected mutagen. Classification based on data available for ingredients. May cause genetic defects.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as mutagenic.

Chemical name	United Kingdom
CHROMIUM TRIOXIDE	Muta. 1B

Carcinogenicity	Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.
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The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	United Kingdom
CHROMIUM TRIOXIDE	Carc. 1A

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. Suspected of damaging fertility.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	United Kingdom
CHROMIUM TRIOXIDE	Repr. 2

STOT - single exposure May cause respiratory irritation.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard Based on available data the classification criteria are not met.

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
CHROMIUM TRIOXIDE	-	LC50: =40mg/L (96h, Colisa fasciatus)	-	-

12.2. Persistence and degradability

Persistence and degradability The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulation Not likely to bioaccumulate.

12.4. Mobility in soil

Mobility in soil Soluble in water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
CHROMIUM TRIOXIDE	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products	Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.
Contaminated packaging	Do not reuse empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty remaining contents.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number	UN1463
14.2 UN proper shipping name	CHROMIUM TRIOXIDE, ANHYDROUS
14.3 Transport hazard class(es)	5.1
Subsidiary hazard class	6.1, 8
14.4 Packing group	II
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	None
ERG Code	5CP

IMDG

14.1 UN number or ID number	UN1463
14.2 UN proper shipping name	CHROMIUM TRIOXIDE, ANHYDROUS
14.3 Transport hazard class(es)	5.1
Subsidiary hazard class	6.1, 8
14.4 Packing group	II
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	None
EmS-No	F-A, S-Q
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	UN1463
14.2 UN proper shipping name	CHROMIUM TRIOXIDE, ANHYDROUS
14.3 Transport hazard class(es)	5.1
Subsidiary hazard class	6.1, 8
14.4 Packing group	II
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	510
Classification code	OTC

ADR

14.1 UN number or ID number	UN1463
14.2 UN proper shipping name	CHROMIUM TRIOXIDE, ANHYDROUS
14.3 Transport hazard class(es)	5.1
Subsidiary hazard class	6.1, 8
14.4 Packing group	II
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	510
Classification code	OTC

Tunnel restriction code (E)

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Authorisations and/or restrictions on use:**

This product contains one or more substances subject to authorisation (UK REACH - Annex XIV).

This product contains one or more substances subject to restriction (UK REACH - Annex XVII).

Product restricted per REACH Annex XVII: 3

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
CHROMIUM TRIOXIDE - 1333-82-0	Use restricted. See item 28. Use restricted. See item 29. Use restricted. See item 72. Restricted Carcinogen 1A Restricted Mutagen 1B	Use authorised See item 16

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Dangerous substance category per COMAH Regulations 2015 (as amended)

H2 - ACUTE TOXIC

E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

P8 - OXIDISING LIQUIDS AND SOLIDS

Named dangerous substances per COMAH Regulations 2015 (as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Not applicable

International Inventories**TSCA**

Contact supplier for inventory compliance status

DSL/NDSL

Contact supplier for inventory compliance status

EINECS/ELINCS

Contact supplier for inventory compliance status

ENCS

Contact supplier for inventory compliance status

IECSC

Contact supplier for inventory compliance status

KECI

Contact supplier for inventory compliance status

PICCS

Contact supplier for inventory compliance status

AIIC

Contact supplier for inventory compliance status

NZIoC

Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report

A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H271 - May cause fire or explosion; strong oxidiser
 H301 - Toxic if swallowed
 H311 - Toxic in contact with skin
 H314 - Causes severe skin burns and eye damage
 H317 - May cause an allergic skin reaction
 H330 - Fatal if inhaled
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
 H335 - May cause respiratory irritation
 H340 - May cause genetic defects
 H350 - May cause cancer
 H361f - Suspected of damaging fertility
 H372 - Causes damage to organs through prolonged or repeated exposure
 H400 - Very toxic to aquatic life
 H410 - Very toxic to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorisation:
 PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
 vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Revision Note [SDS sections updated 1 2 3 4 5 6 7 8 9 10 11 12 13 15 16](#)

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
STOT - single exposure	Calculation method

STOT - repeated exposure
Acute aquatic toxicity
Chronic aquatic toxicity
Aspiration hazard
Ozone

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Prepared By J Forth
Supersedes date 01-Mar-2018
Revision date 24-Nov-2025

This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name CHROMIUM TRIOXIDE
Pure substance/mixture Substance
REACH registration number 01-2119458868-17-XXXX
CAS No 1333-82-0
EC No (EU Index No) 215-607-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Use as an intermediate
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Product category(ies) PC19 - Intermediate
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
 SU8 - Manufacture of bulk, large scale chemicals (including petroleum products) SU9 - Manufacture of fine chemicals

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Amounts used

Type	Annual amount per site
Value	400
Units	t(ons)/year

Product characteristics

Physical form of product	Solid
Remarks	Not readily biodegradable

Other operational conditions of use affecting environmental exposure

Emission days	365
Remarks	This substance is consumed during use and no waste of the substance is generated

Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Remarks	All contaminated waste water must be processed in an industrial or municipal wastewater treatment plant that incorporates both primary and secondary treatments.

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
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Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	When not in use, keep containers tightly closed Store in a cool, well ventilated area Ensure operatives are trained to minimise exposures Supervision in place to check that the RMMs in place are being used correctly and OCs followed
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Control measures to prevent releases

Air	Upgrade of the system in place or additional air treatment measures, such as wet scrubber and/or air filtration and/or thermal oxidation and/or vapour recovery systems, in order to achieve a reduction of the air emissions
Water	Do not allow runoff to sewer, waterway or ground.
Soil	Do not allow runoff to sewer, waterway or ground.

Conditions and measures related to external treatment of waste for disposal

Disposal	Chemical Reduction , Precipitation Can be landfilled or incinerated, when in compliance with local regulations
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Control of worker exposure

Covers concentrations up to	100%
Physical form of product	Solid, low dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimize exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN 374), coverall and eye protection Wear suitable respiratory protection. See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimize exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. there is potential for exposure: restrict access to authorized persons; provide specific activity training to operators to minimize exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. the need for risk based health surveillance

Section 3 - Exposure estimation

Environmental release category(ies) - ERC6a - Industrial use resulting in manufacture of another substance (use of

intermediates)

**Predicted No Effect Concentration
(PNEC)**

Calculation method

Used EUSES model

Remarks

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented

Derived No Effect Level (DNEL):

Calculation method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Remarks

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name CHROMIUM TRIOXIDE
Pure substance/mixture Substance
REACH registration number 01-2119458868-17-XXXX
CAS No 1333-82-0
EC No (EU Index No) 215-607-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
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 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Formulation & (re)packing of substances and mixtures
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC2 - Formulation of preparations (mixtures)
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Product category(ies) PC14 - Metal surface treatment products, including galvanic and electroplating products
 PC15 - Non-metal-surface treatment products PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
 SU10 - Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Amounts used

Type	Annual amount per site
Value	1000
Units	t(ons)/year

Product characteristics

Physical form of product	Solid
Remarks	Not readily biodegradable

Other operational conditions of use affecting environmental exposure

Emission days	365
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Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	When not in use, keep containers tightly closed Store in a cool, well ventilated area Ensure operatives are trained to minimise exposures Supervision in place to check that the RMMs in place are being used correctly and OCs followed
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Control measures to prevent releases

Air	Upgrade of the system in place or additional air treatment measures, such as wet scrubber and/or air filtration and/or thermal oxidation and/or vapour recovery systems, in order to achieve a reduction of the air emissions
Water	Do not allow runoff to sewer, waterway or ground. Neutralisation is normally necessary before waste water is discharged into water treatment plants
Soil	Do not allow runoff to sewer, waterway or ground.

Conditions and measures related to external treatment of waste for disposal

Disposal	Chemical Reduction , Precipitation Can be landfilled or incinerated, when in compliance with local regulations
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Control of worker exposure

Covers concentrations up to	50 - 450 g/l
Physical form of product	Solid, low dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimize exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN 374), coverall and eye protection Wear suitable respiratory protection. See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimize exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. there is potential for exposure: restrict access to authorized persons; provide specific activity training to operators to minimize exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. the need for risk based health surveillance

Section 3 - Exposure estimation

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Predicted No Effect Concentration (PNEC)

**Calculation method
Remarks**

Used EUSES model
Predicted exposures are not expected to exceed the applicable exposure limits (given in

section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented

Derived No Effect Level (DNEL):

Calculation method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Remarks

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name CHROMIUM TRIOXIDE
Pure substance/mixture Substance
REACH registration number 01-2119458868-17-XXXX
CAS No 1333-82-0
EC No (EU Index No) 215-607-8
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E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Surface treatment
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC2 - Formulation of preparations (mixtures)
Process category(ies) PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC10 - Roller application or brushing
 PROC13 - Treatment of articles by dipping and pouring
Product category(ies) PC14 - Metal surface treatment products, including galvanic and electroplating products
 PC15 - Non-metal-surface treatment products
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
 SU12 - Manufacture of plastics products, including compounding and conversion SU15 - Manufacture of fabricated metal products, except machinery and equipment

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Amounts used

Type	Annual amount per site
Value	150
Units	t(ons)/year

Product characteristics

Physical form of product	Solid
Remarks	Not readily biodegradable

Other operational conditions of use affecting environmental exposure

Emission days	365
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Conditions and measures related to municipal sewage treatment plant

Remarks	Onsite wastewater treatment required
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Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	When not in use, keep containers tightly closed Store in a cool, well ventilated area Ensure operatives are trained to minimise exposures Supervision in place to check that the RMMs in place are being used correctly and OCs followed
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Control measures to prevent releases

Air	Upgrade of the system in place or additional air treatment measures, such as wet scrubber and/or air filtration and/or thermal oxidation and/or vapour recovery systems, in order to achieve a reduction of the air emissions
Water	Do not allow runoff to sewer, waterway or ground. Neutralisation is normally necessary before waste water is discharged into water treatment plants
Soil	Do not allow runoff to sewer, waterway or ground.

Conditions and measures related to external treatment of waste for disposal

Disposal	Chemical Reduction , Precipitation Can be landfilled or incinerated, when in compliance with local regulations
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Control of worker exposure

Covers concentrations up to	50 - 450 g/l
Physical form of product	Solid, low dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimize exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN 374), coverall and eye protection Wear suitable respiratory protection. See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimize exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. there is potential for exposure: restrict access to authorized persons; provide specific activity training to operators to minimize exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. the need for risk based health surveillance

Section 3 - Exposure estimation

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Predicted No Effect Concentration (PNEC)

**Calculation method
Remarks**

Used EUSES model
Predicted exposures are not expected to exceed the applicable exposure limits (given in

section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented

Derived No Effect Level (DNEL):

Calculation method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Remarks

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name CHROMIUM TRIOXIDE
Pure substance/mixture Substance
REACH registration number 01-2119458868-17-XXXX
CAS No 1333-82-0
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Section 1 - Title

Title Catalyst (Industrial use)
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC6b - Industrial use of reactive processing aids
Process category(ies) PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Product category(ies) PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC6b - Industrial use of reactive processing aids

Amounts used

Type	Annual amount per site
Value	100
Units	t(ons)/year

Product characteristics

Physical form of product	Solid
Remarks	Not readily biodegradable

Other operational conditions of use affecting environmental exposure

Emission days	365
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Conditions and measures related to municipal sewage treatment plant

Remarks	Onsite wastewater treatment required
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Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	When not in use, keep containers tightly closed Store in a cool, well ventilated area Ensure operatives are trained to minimise exposures Supervision in place to check that the RMMs in place are being used correctly and OCs followed
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Control measures to prevent releases

Air	Upgrade of the system in place or additional air treatment measures, such as wet scrubber and/or air filtration and/or thermal oxidation and/or vapour recovery systems, in order to achieve a reduction of the air emissions
Water	Do not allow runoff to sewer, waterway or ground. Neutralisation is normally necessary before waste water is discharged into water treatment plants
Soil	Do not allow runoff to sewer, waterway or ground.

Conditions and measures related to external treatment of waste for disposal

Disposal	Chemical Reduction , Precipitation Can be landfilled or incinerated, when in compliance with local regulations
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Control of worker exposure

Covers concentrations up to	100%
Physical form of product	Solid, low dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimize exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN 374), coverall and eye protection Wear suitable respiratory protection. See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimize exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. there is potential for exposure: restrict access to authorized persons; provide specific activity training to operators to minimize exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. the need for risk based health surveillance

Section 3 - Exposure estimation

Environmental release category(ies) - ERC6b - Industrial use of reactive processing aids

Predicted No Effect Concentration (PNEC)

**Calculation method
Remarks**

Used EUSES model
Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented

Derived No Effect Level (DNEL):

Calculation method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Remarks

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name CHROMIUM TRIOXIDE
Pure substance/mixture Substance
REACH registration number 01-2119458868-17-XXXX
CAS No 1333-82-0
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Section 1 - Title

Title Laboratory activities
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8b - Wide dispersive indoor use of reactive substances in open systems
Process category(ies) PROC15 - Use as laboratory reagent
Product category(ies) PC21 - Laboratory chemicals
Sector(s) of use SU22 - Professional uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8b - Wide dispersive indoor use of reactive substances in open systems

Amounts used

Type	Annual amount per site
Value	1
Units	t(ons)/year

Product characteristics

Physical form of product	Solid
Remarks	Not readily biodegradable

Other operational conditions of use affecting environmental exposure

Emission days	365
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Conditions and measures related to municipal sewage treatment plant

Remarks	Onsite wastewater treatment required
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Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	When not in use, keep containers tightly closed Store in a cool, well ventilated area Ensure operatives are trained to minimise exposures Supervision in place to check that the RMMs in place are being used correctly and OCs followed
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Control measures to prevent releases

Air	Upgrade of the system in place or additional air treatment measures, such as wet scrubber and/or air filtration and/or thermal oxidation and/or vapour recovery systems, in order to achieve a reduction of the air emissions
Water	Do not allow runoff to sewer, waterway or ground. Neutralisation is normally necessary before waste water is discharged into water treatment plants
Soil	Do not allow runoff to sewer, waterway or ground.

Conditions and measures related to external treatment of waste for disposal

Disposal	Chemical Reduction , Precipitation Can be landfilled or incinerated, when in compliance with local regulations
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Control of worker exposure	
Covers concentrations up to	100%
Physical form of product	Solid, low dustiness
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves (tested to EN 374), coverall and eye protection Wear suitable respiratory protection. See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimize exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. there is potential for exposure: restrict access to authorized persons; provide specific activity training to operators to minimize exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. the need for risk based health surveillance

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8b - Wide dispersive indoor use of reactive substances in open systems

Predicted No Effect Concentration (PNEC)

Calculation method	Used EUSES model
Remarks	Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented

Derived No Effect Level (DNEL):

Calculation method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks	Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.