

MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form : Substance
:
EC Index-No. : 024-001-00-0
EC-No. : 215-607-8
CAS-No. : 1333-82-0
Product code : 02821
Formula : CrO₃
Chemical structure :



Synonyms : Chromium(VI) Oxide, Chromium anhydride

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
For professional use only
Use of the substance/mixture : Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Oxidising Solids, H271
Category 1
Acute toxicity (oral), H301
Category 3
Acute toxicity (dermal), H311
Category 3
Acute toxicity (inhal.), H330

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Category 2	
Skin corrosion/irritation, Category 1A	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 — Repeated exposure, Category 1	H372
Hazardous to the aquatic environment — Chronic Hazard, Category 1	H410

Full text of H statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.1; R45
Muta.Cat.2; R46
Repr.Cat.3; R62
O; R9
T+; R26
T; R24/25
T; R48/23
R42
C; R35
R43
N; R50/53

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS03

GHS05

GHS06

GHS08

GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) : H271 - May cause fire or explosion; strong oxidiser.
H301+H311 - Toxic if swallowed or 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.

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Precautionary statements (CLP)	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.
	: P201 - Obtain special instructions before use.
	P220 - Keep away from clothing and other combustible materials.
	P260 - Do not breathe vapours, spray, dust, fume, gas.
	P273 - Avoid release to the environment.
	P280 - Wear protective gloves, protective clothing, eye protection, face protection.
	P284 - Wear respiratory protection.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	: CHROMIUM TRIOXIDE AR
CAS-No.	: 1333-82-0
EC-No.	: 215-607-8
EC Index-No.	: 024-001-00-0

Full text of R- and H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Get medical advice/attention. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Assure fresh air breathing.
First-aid measures after skin contact	: Get medical advice/attention. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash with plenty of water/....
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
First-aid measures after ingestion	: Rinse mouth. Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.

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

Symptoms/effects	: Causes severe skin burns and eye damage. May cause genetic defects. Suspected of damaging fertility. Causes damage to organs through prolonged or repeated exposure.
Symptoms/effects after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause cancer by inhalation. Fatal if inhaled.
Symptoms/effects after skin contact	: Toxic in contact with skin.
Symptoms/effects after ingestion	: Toxic if swallowed.

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

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Water spray.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : May cause fire or explosion; strong oxidiser.
Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

5.3. Advice for firefighters

Firefighting instructions : In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : No open flames. No smoking.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. On land, sweep or shovel into suitable containers.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Hazardous waste due to potential risk of explosion.
Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapour. Take precautionary measures against static discharge. Do not breathe vapours. Obtain special instructions before use. Avoid contact with skin and eyes. Eliminate all ignition sources if safe to do so.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.
Storage conditions : Keep in fireproof place. Keep container tightly closed.
Incompatible materials : Heat sources. combustible materials.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Personal protective equipment	: Wear fire/flame resistant/retardant clothing.
Hand protection	: Protective gloves
Eye protection	: Chemical goggles or face shield
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Molecular mass	: 99.99 g/mol
Colour	: Reddish brown.
Odour	: odourless.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 196 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 2.7 g/cm ³
Solubility	: Water: 63 g/100ml @ 20°C
Log Pow	: No data available
Viscosity, kinematic	: No data available

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Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: The substance or mixture is classified as oxidizing with the subcategory 1. May cause fire or explosion; strong oxidiser.
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Heat. Sparks. Open flame.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Oral: Toxic if swallowed. Dermal: Toxic in contact with skin. Inhalation: Fatal if inhaled.
Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Serious eye damage, category 1, implicit
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: May cause genetic defects.
Carcinogenicity	: May cause cancer.
Reproductive toxicity	: Suspected of damaging fertility.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified

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Potential adverse human health effects and symptoms : Toxic if swallowed. Toxic in contact with skin.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

CHROMIUM TRIOXIDE AR (1333-82-0)

Persistence and degradability	May cause long-term adverse effects in the environment.
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12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

CHROMIUM TRIOXIDE AR (1333-82-0)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Hazardous waste due to potential risk of explosion.

Ecology - waste materials : Hazardous waste due to toxicity.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : 1463

UN-No. (IMDG) : 1463

UN-No. (IATA) : 1463

UN-No. (ADN) : Not regulated

UN-No. (RID) : Not regulated

14.2. UN proper shipping name

Proper Shipping Name (ADR) : CHROMIUM TRIOXIDE, ANHYDROUS

Proper Shipping Name (IMDG) : CHROMIUM TRIOXIDE, ANHYDROUS

Proper Shipping Name (IATA) : Chromium trioxide, anhydrous

Proper Shipping Name (ADN) : Not regulated

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Proper Shipping Name (RID)	: Not regulated
Transport document description (ADR)	: UN 1463 CHROMIUM TRIOXIDE, ANHYDROUS, 5.1, II, (E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG)	: UN 1463 CHROMIUM TRIOXIDE, ANHYDROUS, 5.1 (6.1+8), II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	: UN 1463 Chromium trioxide, anhydrous, 5.1, II, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 5.1 (6.1, 8)



IMDG

Transport hazard class(es) (IMDG) : 5.1 (6.1, 8)

Danger labels (IMDG) : 5.1, 6.1, 8



IATA

Transport hazard class(es) (IATA) : 5.1 (6.1, 8)

Hazard labels (IATA) : 5.1, 6.1, 8



ADN

Transport hazard class(es) (ADN) : Not regulated

RID

Transport hazard class(es) (RID) : Not regulated

14.4. Packing group

Packing group (ADR)	: II
Packing group (IMDG)	: II
Packing group (IATA)	: II
Packing group (ADN)	: Not regulated
Packing group (RID)	: Not regulated

14.5. Environmental hazards

Dangerous for the environment	: Yes
Marine pollutant	: Yes
Other information	: No supplementary information available

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14.6. Special precautions for user

- Overland transport

Classification code (ADR)	: OTC
Special provisions (ADR)	: 510
Limited quantities (ADR)	: 1kg
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P002, IBC08
Special packing provisions (ADR)	: B4
Mixed packing provisions (ADR)	: MP2
Portable tank and bulk container instructions (ADR)	: T3
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAN
Tank special provisions (ADR)	: TU3
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Packages (ADR)	: V11
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV24, CV28
Hazard identification number (Kemler No.)	: 568
Orange plates	:

568

1463

Tunnel restriction code (ADR)	: E
EAC code	: 1W

- Transport by sea

Limited quantities (IMDG)	: 1 kg
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P002
Special packing provisions (IMDG)	: PP31
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B2, B4
Tank instructions (IMDG)	: T3
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-Q
Stowage category (IMDG)	: A
Segregation (IMDG)	: SG6, SG16, SG19
MFAG-No	: 141

- Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y544
PCA limited quantity max net quantity (IATA)	: 2.5kg
PCA packing instructions (IATA)	: 558
PCA max net quantity (IATA)	: 5kg
CAO packing instructions (IATA)	: 562
CAO max net quantity (IATA)	: 25kg
ERG code (IATA)	: 5CP

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- Inland waterway transport

Not regulated

- Rail transport

Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Chromium trioxide is on the REACH Candidate List

Chromium trioxide is on the REACH Annex XIV List:

Authorisation number	Sunset date	REACH authorisation exemptions
	21/09/2017	

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 3, severe hazard to water (Classification according to AwSV; ID No. 328)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : CHROMIUM TRIOXIDE AR is listed

SZW-lijst van mutagene stoffen : CHROMIUM TRIOXIDE AR is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : CHROMIUM TRIOXIDE AR is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : CHROMIUM TRIOXIDE AR is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : CHROMIUM TRIOXIDE AR is listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

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15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Carc. 1A	Carcinogenicity, Category 1A
Muta. 1B	Germ cell mutagenicity, Category 1B
Ox. Sol. 1	Oxidising Solids, Category 1
Repr. 2	Reproductive toxicity, Category 2
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
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.
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.
R24/25	Toxic in contact with skin and if swallowed
R26	Very toxic by inhalation
R35	Causes severe burns
R42	May cause sensitization by inhalation
R43	May cause sensitisation by skin contact
R45	May cause cancer
R46	May cause heritable genetic damage
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R62	Possible risk of impaired fertility
R9	Explosive when mixed with combustible material
C	Corrosive
N	Dangerous for the environment
O	Oxidising
T	Toxic
T+	Very toxic

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product