

Safety Data Sheet Chrome Crystals

SECTION 1: Identification

1.1 Product identifier

Product name	Chrome Crystals
Product number	C15C
Brand	Caswell
Substance name	CHROMIUM TRIOXIDE
EC no.	215-607-8

1.3 Recommended use of the chemical and restrictions on use

***USES:**

Used in chromium plating: copper stripping; aluminum anodizing; corrosion inhibitor; photography; purifying oil and acetylene; hardening microscopical preparations; oxidant in organic chemistry.

***COMMENTS:** Not available

1.4 Supplier's details

Name	Caswell Inc
Address	7696 Route 31 Lyons, NY 14489 USA
Telephone	315 946 1213
Fax	315 946 4456
email	sales@caswellplating.com

Supplied in Australia by
Caswell Australia
Factory 1
51 ELM PARK DRIVE
HOPPERS CROSSING
VICTORIA 3029

Ph 03 9741 7103

EMERGENCY 0 0 0

1.5 Emergency phone number(s)

Office Hours (9-4ET): 315 946 1213
24 Hour: CHEMTEL US# 1-800-255-3924 Intl# +01-813-248-0585

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1
- Sensitization, skin (chapter 3.4), Cat. 1
- Sensitization, respiratory (chapter 3.4), Cat. 1
- Skin corrosion/irritation (chapter 3.2), Cat. 1A
- Specific target organ toxicity, repeated exposure (chapter 3.9), Cat. 1

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- Acute toxicity (chapter 3.1), Cat. 3
- Acute toxicity (chapter 3.1), Cat. 2
- Toxic to reproduction (chapter 3.7), Cat. 2
- Muta. 1B
- Carc. 1A
- Oxidizing solids (chapter 2.14), Cat. 1

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

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

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name	CHROMIUM TRIOXIDE
EC no.	215-607-8
Formula	CrO ₃
Molecular weight	100
Other names / synonyms	Chromium oxide (CrO ₃); chromium (VI) trioxide; PURATRONIC; MONOCHROMIUM TRIOXIDE; MONOCHROMIUM OXIDE; CHROMIUM VI OXIDE; 5CHROMIUM TRIOXIDE, ANHYDROUS; CHROMIUM (6+) TRIOXIDE; CHROMIUM OXIDE; CHROMIC VI ACID; CHROMIC TRIOXIDE; CHROMIC ANHYDRIDE; CHROMIC ACID, SOLUTION; CHROMIC ACID, SOLID; CHROMIC ACID; Chromium oxide [CrO ₃]; CHROMIUMTRIOXIDE; CHROMIUM TRIOXIDE

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

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General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled	IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. IMMEDIATELY call a physician and be prepared to transport the victim to a hospital even if no symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.
In case of skin contact	IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. IMMEDIATELY call a hospital or poison control center even if no symptoms (such as redness or irritation) develop. IMMEDIATELY transport the victim to a hospital for treatment after washing the affected areas.
In case of eye contact	First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.
If swallowed	Some heavy metals are VERY TOXIC POISONS, especially if their salts are very soluble in water (e.g., lead, chromium, mercury, bismuth, osmium, and arsenic). IMMEDIATELY call a hospital or poison control center and locate activated charcoal, egg whites, or milk in case the medical advisor recommends administering one of them. Also locate Ipecac syrup or a glass of salt water in case the medical advisor recommends inducing vomiting. Usually, this is NOT RECOMMENDED outside of a physician's care. If advice from a physician is not readily available and the victim is conscious and not convulsing, give the victim a glass of activated charcoal slurry in water or, if this is not available, a glass of milk, or beaten egg whites and IMMEDIATELY transport victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, assure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital.
Personal protective equipment for first-aid responders	See section 8

4.2 Most important symptoms/effects, acute and delayed

Dermal contact can cause primary irritation as well as ulceration and allergic eczema. Inhalation can cause nasal irritation and septal perforation. Pulmonary irritation, bronchogenic carcinoma may result from inhalation of chromate dust. Ingestion causes violent gastroin- testinal irritation with vomiting and diarrhea.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

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Use extinguishing media appropriate for surrounding fire.

5.2 Specific hazards arising from the chemical

Dike area and do not allow runoff to enter any waterways or sewer.

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting. Strong oxidizing agent.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid all contact. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions

Material is extremely hazardous to the environment. Do not allow product to enter waterways or sewer. Do not flush residue to sewer.

6.3 Methods and materials for containment and cleaning up

If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid all contact. Wear protective equipment whenever handling or using product. Refer to section 8. Do not eat, drink or smoke after using this material without vigorous hand washing. Inspect clothing after use and dispose if contaminated. Material is hygroscopic.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Avoid strong acids, oxidizers and flammable materials. Substance is a strong oxidizer.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. CHROMIUM TRIOXIDE (CAS: 1333-82-0)

TWA: .001000 mg/m³; USA (NIOSH)

2. CHROMIUM TRIOXIDE (CAS: 1333-82-0)

TWA: .0500 mg/m³ (ACGIH)

3. CHROMIUM TRIOXIDE (CAS: 1333-82-0)

PEL-C: .00500 mg/m³ (OSHA)

8.2 Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

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8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms



Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

*MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. *RECOMMENDED GLOVE MATERIALS: Recommended Glove Type For Use With Neat (Undiluted) Chemical: Recommendations based on permeation test results are made for handling the neat (undiluted) chemical. If this chemical makes direct contact with your glove, or if a tear, puncture or hole develops, replace them at once. Suggested Glove Type(s) (RAD): No information available

Body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

*RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH- approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO₂) with a dust/mist filter.

Environmental exposure controls

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form	solid, purple, odorless
Odor	No Data Available
Odor threshold	
pH	No Data Available
Melting point/freezing point	196
Initial boiling point and boiling range	250 C (d)
Flash point	
Evaporation rate	
Flammability (solid, gas)	
Upper/lower flammability limits	
Upper/lower explosive limits	
Vapor pressure	
Vapor density	
Relative density	2.7 g/cm ³
Solubility(ies)	1.667 g/l water
Partition coefficient: n-octanol/water	
Auto-ignition temperature	

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Decomposition temperature
Viscosity
Explosive properties
Oxidizing properties

Strong Oxidizer

Other safety information

*VOLATILITY:

Vapor pressure: Not available
Vapor density : Not available

*FLAMMABILITY(FLASH POINT):

Flash point data for this compound are not available. It is probably combustible. Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher.

*UEL: Not available LEL: Not available

*REACTIVITY:

This compound is a powerful oxidizer and reacts with most organic substances in a violent and possibly explosive manner. Pharmaceutical incompatibilities include: alcohol, ether, glycerol, spirit nitrous ether; bromides; chlorides; iodides; hypophosphites, sulfites and sulfides. Violent or explosive reactions with acetic acid, acetic anhydride, phosphorous and selenium; incandescence with potassium, sodium, ammonia, butyric acid, hydrogen sulfide; may ignite acetone, methanol, ethanol, propan-2-ol, butanol, cyclohexanol, N,N-dimethylformamide, pyridine and sulfur.

*STABILITY:

This compound is sensitive to moisture.

*OTHER PHYSICAL DATA: Not available

SECTION 10: Stability and reactivity

10.1 Reactivity

No Data Available

10.2 Chemical stability

Stable

10.3 Possibility of hazardous reactions

No Data Available

10.4 Conditions to avoid

Heat. Moisture

10.5 Incompatible materials

Organic materials, phosphorous, powdered metals

10.6 Hazardous decomposition products

No Data Available

SECTION 11: Toxicological information

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Information on toxicological effects

Acute toxicity

LD50

Oral - Rat - male and female - 52 mg/kg (OECD Test Guideline 401)

LC50

Inhalation - Rat - male - 4 h - 217 mg/m³

LD50

Dermal - Rabbit - male and female - 57 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation

Skin corrosion/irritation

Skin - Rabbit Result: Corrosive - 24 h

Serious eye damage/irritation

Eyes - Rabbit Result: Corrosive to eyes

Respiratory or skin sensitization

No Data Available

Germ cell mutagenicity

No data available

Carcinogenicity

This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or

EPA classification.

Human carcinogen.

IARC:

1-Group 1: Carcinogenic to humans(Chromium trioxide)

NTP:

Known to be human carcinogen(Chromium trioxide)

OSHA:

OSHA specifically regulated carcinogen(Chromium trioxide)

Reproductive toxicity

Suspected human reproductive toxicant

May cause reproductive disorders

STOT-single exposure

No Data Available

STOT-repeated exposure

No Data Available

Aspiration hazard

No Data Available

Additional information

*TOXICITY:

typ. dose mode specie amount units other

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LD50 ipr mus 29 mg/kg
LDLo scu dog 330 mg/kg

*AQTX/TLM96: Not available

*SAX TOXICITY EVALUATION:
THR = MUT data. An exper. TER, CAR. HIGH scu.

*CARCINOGENICITY:
Tumorigenic Data:
TCLo: ihl-hmn 110 ug/m³/3Y-C
TDLo: imp-rat 125 mg/kg
Review: IARC Cancer Review: Human Inadequate Evidence
IARC Cancer Review: Animal Inadequate Evidence
IARC: Not classifiable as a human carcinogen [610]
Status: NTP human carcinogen [610]

*MUTATION DATA:
test lowest dose	test lowest dose
mmo-sat 1 mmol/L | mma-sat 10 ug/plate
dnr-sat 50 mmol/L | dnd-esc 5 mmol/L
dnr-bcs 50 mmol/L | mrc-bcs 16 mmol/L
cyt-hmn:leu 2 mg/L | cyt-mus:mmr 1 umol/L/48H
cyt-ham:emb 3500 ug/L/24H | cyt-ham:ovr 250 ug/L
sce-ham:ovr 250 ug/L | sce-ham:fbr 320 ug/L

*TERATOGENICITY:
Reproductive Effects Data:
TDLo: ivn-ham 5 mg/kg (8D preg)
TDLo: ivn-ham 7500 ug/kg (8D preg)
TDLo: ivn-ham 7500 ug/kg (8D preg)
TDLo: ivn-ham 8 mg/kg (8D preg)

*STANDARDS, REGULATIONS & RECOMMENDATIONS:
OSHA: Federal Register (1/19/89) and 29 CFR 1910.1000 Subpart Z
Transitional Limit: PEL-TWA 1 mg(Cr(VI))/m³ [610]
Final Limit: PEL-TWA 1 mg(Cr(VI))/m³ [610]
ACGIH: TLV-TWA 0.5 mg(Cr(VI))/m³ [610]
NIOSH Criteria Document: None
NFPA Hazard Rating: Health (H): None
Flammability (F): None
Reactivity (R): None

*OTHER TOXICITY DATA:
Review: Toxicology Review
Standards and Regulations: DOT-Hazard: Oxidizer; Label: Oxidizer, solid
DOT-Hazard: Corrosive Material; Label: Corrosive
Status: NTP Fourth Annual Report on Carcinogens, 1984
Reported in EPA TSCA Inventory, 1983
EPA Genetic Toxicology Program, January 1984
EPA TSCA Section 8(e) Status Report

SECTION 12: Ecological information

Toxicity

Toxicity to fish

LC50

-

Tilapia mossambica

-

21.05

-

141.38 mg/l

-

96.0 h

LC0

-

Leuciscus idus (Golden orfe)

-

100 mg/l

-

48.0 h

Toxicity to daphnia and
other aquatic
invertebrates

Persistence and degradability

No Data Available

Bioaccumulative potential

No Data Available

Mobility in soil

No Data Available

Results of PBT and vPvB assessment

No Data Available

SECTION 13: Disposal considerations

Disposal of the product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contact a

licensed professional waste

disposal service to dispose of this material.

Dissolve or mix the material with a

combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber

Disposal of contaminated packaging

Dispose of as unused product.

Waste treatment

No Data Available

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Sewage disposal
No Data Available

SECTION 14: Transport information

DOT (US)

UN Number: UN1463
Class: 5.1 (6.1,8)
Packing Group: II
Proper Shipping Name: Chromium Trioxide, Anhydrous
Reportable quantity (RQ): 10 #
Marine pollutant:
Poison inhalation hazard:

IMDG

UN Number: UN1463
Class: 5.1 (6.1,8)
Packing Group: II
EMS Number:
Proper Shipping Name: Chromium Trioxide, Anhydrous

IATA

UN Number: UN1463
Class: 5.1 (6.1,8)
Packing Group: II
Proper Shipping Name: Chromium Trioxide, Anhydrous

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

California Prop. 65 components

Chemical name: CHROMIUM TRIOXIDE
CAS number: 1333-82-0
02/27/1987 - Cancer
12/19/2008 - Developmental, female, male

Pennsylvania Right To Know Components

Chemical name: Chromium oxide
CAS number: 1333-82-0

New Jersey Right To Know Components

Common name: CHROMIC TRIOXIDE
CAS number: 1333-82-0

HMIS Rating

CHROMIUM TRIOXIDE	
HEALTH	* 4
FLAMMABILITY	0
PHYSICAL HAZARD	2
PERSONAL PROTECTION	J

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NFPA Rating



SECTION 16: Other information

16.1 Further information/disclaimer

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