

1 Identification

Product identifier

Product name: Caesium dichromate

Stock number: 40230

CAS Number:

13530-67-1

EC number:

236-879-4

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar

Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



GHS03 Flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidizer.



GHS08 Health hazard

Carc. 1B H350 May cause cancer.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms



GHS03 GHS07 GHS08

Signal word

Danger

Hazard statements

H272 May intensify fire; oxidizer.

H317 May cause an allergic skin reaction.

H350 May cause cancer.

Precautionary statements

P221 Take any precaution to avoid mixing with combustibles.

P210 Keep away from heat. - No smoking.

P201 Obtain special instructions before use.

P220 Keep/Store away from clothing/combustible materials.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

C - Oxidizing materials

D1B - Toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects

E - Corrosive material



Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH 3 Health (acute effects) = 3

FIRE 2 Flammability = 2

REACTIVITY 2 Physical Hazard = 2

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:

13530-67-1 Caesium dichromate

Concentration: ≤100%

Product name: Caesium dichromate

Identification number(s):
EC number: 236-879-4

(Contd. of page 1)

4 First-aid measures
Description of first aid measures
General information Immediately remove any clothing soiled by the product.
After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing Seek medical treatment.
Information for doctor
Most important symptoms and effects, both acute and delayed
May cause an allergic skin reaction.
May cause cancer.
Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures
Extinguishing media
Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
For safety reasons unsuitable extinguishing agents Halocarbon extinguisher
Special hazards arising from the substance or mixture
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.
If this product is involved in a fire, the following can be released:
Chromium oxides
Cesium oxide
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures
Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Environmental precautions: Do not allow product to reach sewage system or any water course.
Methods and material for containment and cleaning up:
Use neutralizing agent.
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Prevention of secondary hazards:
Acts as an oxidizing agent on organic materials such as wood, paper and fats
Keep away from combustible material.
Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
Protective Action Criteria for Chemicals
PAC-1: Substance is not listed.
PAC-2: Substance is not listed.
PAC-3: Substance is not listed.

7 Handling and storage
Handling
Precautions for safe handling
Handle under dry protective gas.
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Open and handle container with care.
Information about protection against explosions and fires:
Substance/product can reduce the ignition temperature of flammable substances.
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.
Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility:
Store away from flammable substances.
Store away from reducing agents.
Do not store with organic materials.
Store away from metal powders.
Store away from water/moisture.
Store away from oxidizing agents.
Further information about storage conditions:
Store under dry inert gas.
This product is hygroscopic.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and water.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection
Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

(Contd. on page 3)
USA

Product name: Caesium dichromate

(Contd. of page 2)

Control parameters

Components with limit values that require monitoring at the workplace:

13530-67-1 Caesium dichromate (100.0%)

PEL (USA)	Long-term value: 0.005* mg/m ³ Ceiling limit value: 0.1** mg/m ³ *as Cr(VI) **as CrO ₃ ; see 29 CFR 1910.1026
REL (USA)	Long-term value: 0.0002 mg/m ³ as Cr; See Pocket Guide Apps. A and C
TLV (USA)	Long-term value: 0.01 mg/m ³ as Cr
EL (Canada)	Long-term value: 0.01 mg/m ³ as Cr; ACGIH A1, IARC 1

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.

Recommended filter device for short term use:

Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:

Impervious gloves
Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Eye protection:

Tightly sealed goggles
Full face protection
Safety glasses with side shields / NIOSH (US) or EN 166(EU)

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Powder
Odor:	Not determined
Odor threshold:	Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Flammability (solid, gaseous)	Contact with combustible material may cause fire.
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto igniting:	Not determined.

Danger of explosion: Not determined.

Explosion limits:

Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not applicable.
Density:	Not determined
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.

Solubility in / Miscibility with

Water: Not determined

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

dynamic: Not applicable.

kinematic: Not applicable.

Other information No further relevant information available.

10 Stability and reactivity

Reactivity May intensify fire; oxidizer.

Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions

Reacts with strong oxidizing agents
Reacts with reducing agents
Reacts with flammable substances

Conditions to avoid No further relevant information available.

Incompatible materials:

Flammable substances
Reducing agents
Water/moisture
Oxidizing agents
Organic materials
Metal powders

(Contd. on page 4)
USA

Product name: Caesium dichromate

Hazardous decomposition products:
Chromium oxides
Cesium oxide

(Contd. of page 3)

11 Toxicological information

Information on toxicological effects
Acute toxicity: Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.
LD/LC50 values that are relevant for classification: No data
Skin irritation or corrosion: Causes severe skin burns.
Eye irritation or corrosion: Causes serious eye damage.
Sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: No effects known.
Carcinogenicity:
May cause cancer.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity: No effects known.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: No effects known.
Aspiration hazard: No effects known.
Subacute to chronic toxicity: No effects known.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.









12 Ecological information

Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Ecotoxicological effects:
Remark: Very toxic for aquatic organisms
Additional ecological information:
General notes:
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Very toxic for aquatic organisms
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation Consult state, local or national regulations to ensure proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number DOT, IMDG, IATA	UN3087
UN proper shipping name DOT ADR IMDG, IATA	Oxidizing solid, toxic, n.o.s. (Caesium dichromate) 3087 Oxidizing solid, toxic, n.o.s. (Caesium dichromate) OXIDIZING SOLID, TOXIC, N.O.S. (Caesium dichromate)
Transport hazard class(es) DOT  	
Class Label ADR  	5.1 Oxidizing substances 5.1, 6.1
Class Label IMDG  	5.1 (OT2) Oxidizing substances 5.1+6.1
Class Label IATA  	5.1 Oxidizing substances 5.1/6.1
Class	5.1 Oxidizing substances

(Contd. on page 5)

Product name: Caesium dichromate	
(Contd. of page 4)	
Label	5.1 (6.1)
Packing group DOT, ADR, IMDG, IATA	III
Environmental hazards:	Not applicable.
Special precautions for user EMS Number: Stowage Category Segregation Code	Warning: Oxidizing substances F-A, S-Q B SG38 Stow "separated from" ammonium compounds. SG49 Stow "separated from" cyanides SG60 Stow "separated from" peroxides
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information: DOT Quantity limitations Marine Pollutant (DOT):	On passenger aircraft/rail: 25 kg On cargo aircraft only: 100 kg No
IMDG Limited quantities (LQ) Excepted quantities (EQ)	5 kg Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
UN "Model Regulation":	UN 3087 OXIDIZING SOLID, TOXIC, N.O.S. (CAESIUM DICHROMATE), 5.1 (6.1), III

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)
Hazard pictograms



GHS03 GHS07 GHS08

Signal word Danger
Hazard statements
H272 May intensify fire; oxidizer.
H317 May cause an allergic skin reaction.
H350 May cause cancer.

Precautionary statements
P221 Take any precaution to avoid mixing with combustibles.
P210 Keep away from heat. - No smoking.
P201 Obtain special instructions before use.
P220 Keep/Store away from clothing/combustible materials.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations
This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes.
This product is not listed on the Canadian Domestic Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL).

SARA Section 313 (specific toxic chemical listings)

13530-67-1 | Caesium dichromate

California Proposition 65

Prop 65 - Chemicals known to cause cancer

13530-67-1 | Caesium dichromate

Prop 65 - Developmental toxicity Substance is not listed.

Prop 65 - Developmental toxicity, female

13530-67-1 | Caesium dichromate

Prop 65 - Developmental toxicity, male

13530-67-1 | Caesium dichromate

Information about limitation of use: For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

Date of preparation/Revision: Print date, revision date and version number are in the header of each page.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

Product name: **Caesium dichromate**

PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)
Ox. Sol. 2: Oxidizing solids – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 1B: Carcinogenicity – Category 1B

(Contd. of page 5)