Chromium Trioxide, ACS

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 10/18/2013 Revision date: 03/12/2019 Supersedes: 10/13/2017 Version: 2.0

SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Substance name	:	Chromium Trioxide, ACS
CAS-No.	:	1333-82-0
Product code	:	LC13090
Formula	:	CrO3
Synonyms	:	chromia / chromium (VI) oxide / chromic anhydride / chromic trioxide / chromic acid / chromium anhydride / chromium oxide,red / monochromium oxide / red oxide of chromium

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	Oxidant Reagent
Restrictions on use	:	Not for food, drug or household use

1.3. Supplier

LabChem, Inc.

Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court

Zelienople, PA 16063 - USA

T 412-826-5230 - F 724-473-0647

1.4. Emergency telephone number

Emergency number	:	CHEMTREC: 1-800-424-9300 or +1-703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Oxidizing solids Category 1	H271	May cause fire or explosion; strong oxidizer
Acute toxicity (oral) Category 3	H301	Toxic if swallowed
Acute toxicity (dermal) Category 2	H310	Fatal in contact with skin
Acute toxicity (inhalation:dust,mist) Category 2	H330	Fatal if inhaled
Skin corrosion/irritation Category 1A	H314	Causes severe skin burns and eye damage
Respiratory sensitization, Category 1	H334	May cause an allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Germ cell mutagenicity Category 1B	H340	May cause genetic defects
Carcinogenicity Category 1A	H350	May cause cancer (Inhalation)
Reproductive toxicity Category 2	H361	Suspected of damaging fertility or the unborn child
Specific target organ toxicity (repeated exposure) Category 1	H372	Causes damage to organs (kidneys, liver, respiratory system, Skin, eyes) through prolonged or repeated exposure
Hazardous to the aquatic environment - Acute Hazard Category 1	H400	Very toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 1	H410	Very toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

GHS03 GHS05 GHS06 GHS08 GHS09

Signal word (GHS US) : Danger

Hazard statements (GHS US) :
H271 - May cause fire or explosion; strong oxidizer
H301 - Toxic if swallowed
H310+H330 - Fatal in contact with skin or if inhaled
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled
H340 - May cause genetic defects
H350 - May cause cancer (Inhalation)
H361 - Suspected of damaging fertility or the unborn child
H372 - Causes damage to organs (kidneys, liver, respiratory system, Skin, eyes) through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS US) :
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, sparks, open flames. - No smoking.
P220 - Keep/Store away from clothing, combustible materials
P221 - Take any precaution to avoid mixing with combustibles
P260 - Do not breathe dust.
Contaminated work clothing must not be allowed out of the workplace
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash exposed skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P283 - Wear fire/flame resistant/retardant clothing.
P284 - Wear respiratory protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P306+P360 - If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P310 - Immediately call a poison center or doctor/physician.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use carbon dioxide (CO_2), powder, alcohol-resistant foam to extinguish
P371+P380+P375 - In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to comply with local, state and federal regulations

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
Chromium Trioxide, ACS (Main constituent)	(CAS-No.) 1333-82-0	100	Ox. Sol. 1, H271 Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Dermal), H310 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1A, H314 Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 1B, H340 Carc. 1A, H350 Repr. 2, H361 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes 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 : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

First-aid measures after inhalation : Remove the victim into fresh air. Immediately consult a doctor/medical service.

First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist.

First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.htm). Ingestion of large quantities: immediately to hospital. Take the container/vomit to the doctor/hospital. Do not give chemical antidote.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Dry/sore throat. Coughing. Corrosion of the upper respiratory tract. Runny nose. Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible laryngeal spasm/oedema. Risk of lung edema.

Symptoms/effects after skin contact : Caustic burns/corrosion of the skin.

Symptoms/effects after eye contact : Corrosion of the eye tissue. Inflammation/damage of the eye tissue.

Symptoms/effects after ingestion : Nausea. Burns to the gastric/intestinal mucosa. Abdominal pain. Blood in vomit. Blood in stool. Shock. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Change in urine output. Renal disease. Enlargement/disease of the liver. Change in the blood composition.

Chronic symptoms : Skin rash/inflammation. Affection of the nasal septum. Nosebleeding. Respiratory difficulties. Possible inflammation of the respiratory tract. Risk of pneumonia. Lung tissue affection/degeneration. Inflammation/damage of the eye tissue. Enlargement/affection of the liver.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Adapt extinguishing media to the environment for surrounding fires.

5.2. Specific hazards arising from the chemical

Fire hazard : DIRECT FIRE HAZARD. Non combustible. INDIRECT FIRE HAZARD. May cause fire or explosion; strong oxidiser. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard : INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".

Reactivity	:	Risk of explosion with combustible materials. Reacts with organic material: risk of spontaneous ignition. Reacts violently with many compounds e.g.: with (strong) reducers, with (some) acids and with oils/fats: (increased) risk of fire/explosion. When decomposing on exposure to temperature rise: oxidation which increases fire hazard. Reacts violently on exposure to water (moisture) with (some) bases. Reacts on exposure to water (moisture) with (some) metals.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire	:	Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	:	Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Protection during firefighting	:	Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	:	Gloves. Face-shield. Corrosion-proof suit. Dust cloud production: compressed air/oxygen apparatus. Dust cloud production: dust-tight suit.
Emergency procedures	:	Mark the danger area. Prevent dust cloud formation. No naked flames. Corrosion-proof appliances. Keep containers closed. Wash contaminated clothes. In case of reactivity hazard: consider evacuation.
Measures in case of dust release	:	In case of dust production: keep upwind. In case of dust production: consider evacuation. Dust production: have neighbourhood close doors and windows.

6.1.2. For emergency responders

Protective equipment	:	Do not breathe dust. Equip cleanup crew with proper protection.
Emergency procedures	:	If a major spill occurs, all personnel should be immediately evacuated and the area ventilated. Stop leak if safe to do so. Ventilate area.

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment	:	Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray. Take account of toxic/corrosive precipitation water.
Methods for cleaning up	:	Spill must not return in its original container. Prevent dispersion by covering with dry sand/earth. Do not take up in combustible material such as: saw dust. Wetted substance: mix with dry sand or powdered limestone. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

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	:	Pulverization rapidly increases toxic concentration.
Precautions for safe handling	:	Avoid raising dust. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Use corrosionproof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep container tightly closed.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible products	:	aluminum. combustible materials. metals. Strong oxidizers. Strong reducing agents.
Incompatible materials	:	Moisture.
Heat-ignition	:	KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage	:	KEEP SUBSTANCE AWAY FROM: combustible materials. reducing agents. (strong) bases. oils-fats. metals. halogens. organic materials. alcohols. strong acids.

Storage area	:	Store in a dry area. Store in a dark area. Keep container in a well-ventilated place. Fireproof storeroom. Keep locked up. Unauthorized persons are not admitted. Detached building. Keep only in the original container. Meet the legal requirements.
Special rules on packaging	:	SPECIAL REQUIREMENTS: hermetical. watertight. corrosion-proof. dry. clean. shock-absorbing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	:	MATERIAL TO AVOID: paper. wood. steel. aluminium. iron. copper. nickel. bronze. plastics.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chromium Trioxide, ACS (1333-82-0)		
ACGIH	ACGIH TWA (mg/m³)	0.0002 mg/m³ (Inhalable fraction)
ACGIH	ACGIH STEL (mg/m³)	0.0005 mg/m³ (Inhalable fraction)
NIOSH	NIOSH REL (TWA) (mg/m³)	0.001 mg/m³

8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Safety glasses. Gloves. Protective clothing. High dust production: self-contained breathing apparatus. Combined gas/dust mask with filter type E/P2.

Materials for protective clothing:

GIVE GOOD RESISTANCE: butyl rubber. PVC

Hand protection:

Gloves

Eye protection:

Face shield. In case of dust production: protective goggles

Skin and body protection:

Corrosion-proof clothing. In case of dust production: head/neck protection

Respiratory protection:

Dust production: dust mask with filter type P3.
High dust production: self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Crystalline solid. Crystalline powder. Needles. Flakes.
	:	Dark red to red-violet
	:	Odorless
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	196 °C (EU Method A.1: Melting/freezing point)
Freezing point	:	No data available

Boiling point	:	Not applicable (decomposes)
Flash point	:	Not applicable
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	Not applicable
Relative vapor density at 20 °C	:	Not applicable
Relative density	:	2.7 (OECD 109: Density of Liquids and Solids)
Specific gravity / density	:	2700 kg/m³
Molecular mass	:	99.99 g/mol
Solubility	:	Exothermically soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acids. Soluble in nitric acid. Soluble in sulfuric acid. Water: 166.7 g/100ml (EU Method A.6: Water solubility)
Log Pow	:	No data available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	250 °C
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	Not explosive.
Oxidizing properties	:	May cause fire or explosion; strong oxidiser.

9.2. Other information

SADT	:	Not applicable
VOC content	:	0 %
Other properties	:	Hygroscopic. Substance has acid reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Risk of explosion with combustible materials. Reacts with organic material: risk of spontaneous ignition. Reacts violently with many compounds e.g.: with (strong) reducers, with (some) acids and with oils/fats: (increased) risk of fire/explosion. When decomposing on exposure to temperature rise: oxidation which increases fire hazard. Reacts violently on exposure to water (moisture) with (some) bases. Reacts on exposure to water (moisture) with (some) metals.

10.2. Chemical stability

Unstable on exposure to moisture.

10.3. Possibility of hazardous reactions

May react violently with reducing agents.

10.4. Conditions to avoid

Avoid dust formation. Finely divided metals. Incompatible materials. Moisture.

10.5. Incompatible materials

alcohols. Aldehydes. aluminum. combustible materials. metals. Strong reducing agents. Strong bases.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure	:	Inhalation; Skin and eye contact
Acute toxicity	:	Not classified

Chromium Trioxide, ACS (1333-82-0)	
LD50 oral rat	52 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	57 mg/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LC50 inhalation rat (mg/l)	0.217 mg/l (EPA OTS 798.1150: Acute inhalation toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))

Chromium Trioxide, ACS (1333-82-0)	
ATE US (oral)	52 mg/kg body weight
ATE US (dermal)	57 mg/kg body weight
ATE US (vapors)	0.217 mg/l/4h
ATE US (dust, mist)	0.217 mg/l/4h
Additional information	An oral toxicity study of chromium trioxide conducted on rats in 1989 found the average LD50 to be 51.9 mg/kg.

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Eye damage, category 1, implicit

Respiratory or skin sensitization : May cause an 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 (Inhalation).

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Causes damage to organs (kidneys, liver, respiratory system, Skin, eyes) through prolonged or repeated exposure.

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Toxic if swallowed. Fatal in contact with skin. Causes severe skin burns. Fatal if inhaled. Causes serious eye damage. Caution! Substance is absorbed through the skin.

Symptoms/effects after inhalation : Dry/sore throat. Coughing. Corrosion of the upper respiratory tract. Runny nose. Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible laryngeal spasm/oedema. Risk of lung edema.

Symptoms/effects after skin contact : Caustic burns/corrosion of the skin.

Symptoms/effects after eye contact : Corrosion of the eye tissue. Inflammation/damage of the eye tissue.

Symptoms/effects after ingestion : Nausea. Burns to the gastric/intestinal mucosa. Abdominal pain. Blood in vomit. Blood in stool. Shock. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Change in urine output. Renal disease. Enlargement/disease of the liver. Change in the blood composition.

Chronic symptoms : Skin rash/inflammation. Affection of the nasal septum. Nosebleeding. Respiratory difficulties. Possible inflammation of the respiratory tract. Risk of pneumonia. Lung tissue affection/degeneration. Inflammation/damage of the eye tissue. Enlargement/affection of the liver.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Dangerous for the environment.

Ecology - air : Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Very toxic to crustacea. Harmful to fishes. Severe water pollutant (surface water). Very toxic to algae. pH shift.

Chromium Trioxide, ACS (1333-82-0)	
LC50 fish 1	58.5 mg/l (96 h, Brachydanio rerio, Fresh water, Read-across)
EC50 Daphnia 1	0.063 mg/l (48 h, Daphnia magna, Fresh water, Read-across)

12.2. Persistence and degradability

Chromium Trioxide, ACS (1333-82-0)	
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Chromium Trioxide, ACS (1333-82-0)	
BCF fish 1	4.6 - 72 (Cyprinus carpio, Test duration: 6 weeks)
BCF fish 2	16 (Pisces)
BCF other aquatic organisms 1	192 (Mytilidae, Chrome)

Chromium Trioxide, ACS (1333-82-0)	
BCF other aquatic organisms 2	125 (Ostreidae, Chrome)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Treat using the best available techniques before discharge into drains or the aquatic environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse. Remove to an authorized dump (Class I). Remove for physico-chemical/biological treatment.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1463 Chromium trioxide, anhydrous, 5.1, II

UN-No.(DOT) : UN1463

Proper Shipping Name (DOT) : Chromium trioxide, anhydrous

Packing group (DOT) : II - Medium Danger

Hazard labels (DOT) : 5.1 - Oxidizer
6.1 - Poison
8 - Corrosive

Dangerous for the environment : Yes

Marine pollutant : Yes

DOT Packaging Non Bulk (49 CFR 173.xxx) : 212

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Special Provisions (49 CFR 172.102)	:	IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle. IP4 - Flexible, fiberboard or wooden IBCs must be sift-proof and water-resistant or be fitted with a sift-proof and water-resistant liner. T3 - 2.65 178.274(d)(2) Normal..... 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	None
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	5 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	25 kg
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	:	66 - Stow ‘‘separated from’’ flammable solids,90 - Stow ‘‘separated from’’ radioactive materials
Other information	:	No supplementary information available.

Transportation of Dangerous Goods

Transport document description	:	UN1463 CHROMIUM TRIOXIDE, ANHYDROUS, 5.1 (6.1;8), II
UN-No. (TDG)	:	UN1463
Proper Shipping Name (Transportation of Dangerous Goods)	:	CHROMIUM TRIOXIDE, ANHYDROUS
TDG Primary Hazard Classes	:	5.1 - Class 5.1 - Oxidizing Substances
Packing group	:	II - Medium Danger
TDG Subsidiary Classes	:	6.1;8
Explosive Limit and Limited Quantity Index	:	1 kg
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	:	5 kg

Transport by sea

Transport document description (IMDG)	:	UN 1463 chromium trioxide, anhydrous, 5.1 (6.1+8), II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
UN-No. (IMDG)	:	1463
Proper Shipping Name (IMDG)	:	chromium trioxide, anhydrous
Class (IMDG)	:	5.1 - Oxidizing substances
Packing group (IMDG)	:	II - substances presenting medium danger
Subsidiary risks (IMDG)	:	6.1 - Toxic substances 8 - Corrosive substances
EmS-No. (1)	:	F-A
EmS-No. (2)	:	S-Q
Marine pollutant	:	Yes

Air transport

Transport document description (IATA)	:	UN 1463 Chromium trioxide, anhydrous, 5.1, II, ENVIRONMENTALLY HAZARDOUS
UN-No. (IATA)	:	1463
Proper Shipping Name (IATA)	:	Chromium trioxide, anhydrous
Class (IATA)	:	5.1 - Oxidizing Substances
Packing group (IATA)	:	II - Medium Danger
Subsidiary risks (IATA)	:	6.1 - Toxic substances,8 - Corrosive substances

SECTION 15: Regulatory information

15.1. US Federal regulations

Chromium Trioxide, ACS (1333-82-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
EPA TSCA Regulatory Flag	R - R - indicates a substance that is the subject of a TSCA section 6 risk management rule.
RQ (Reportable quantity, section 304 of EPA's List of Lists)	10 lb
SARA Section 311/312 Hazard Classes	Physical hazard - Oxidizer (liquid, solid or gas) Health hazard - Acute toxicity (any route of exposure) Health hazard - Carcinogenicity Health hazard - Respiratory or skin sensitization Health hazard - Germ cell mutagenicity Health hazard - Reproductive toxicity Health hazard - Serious eye damage or eye irritation Health hazard - Skin corrosion or Irritation Health hazard - Specific target organ toxicity (single or repeated exposure)

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Chromium Trioxide, ACS	CAS-No. 1333-82-0	100%

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

Chromium Trioxide, ACS (1333-82-0)	
U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Yes
No significant risk level (NSRL)	0.001 µg/day

This product can expose you to Chromium Trioxide, ACS, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

Revision date : 03/12/2019

Full text of H-phrases: see section 16:

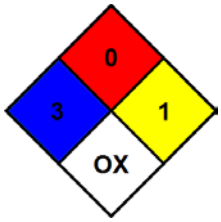
H271	May cause fire or explosion; strong oxidizer
H301	Toxic if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H330	Fatal if inhaled
H334	May cause an allergy or asthma symptoms or breathing difficulties if inhaled
H340	May cause genetic defects
H350	May cause cancer
H361	Suspected of damaging fertility or the unborn child
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

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.

NFPA specific hazard : OX - Materials that posses oxidizing properties.



Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Personal protection : J

J - Splash goggles, Gloves, Synthetic apron, Dust & vapor respirator

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