

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

| | |
|----------------------------------|--|
| Product Description: | Chromium (VI) oxide |
| Cat No. : | C/5920/53, C/5920/50 |
| Synonyms | Chromium trioxide; Chromic acid; Chromic anhydride |
| Index No | 024-001-00-0 |
| CAS No | 1333-82-0 |
| EC No | 215-607-8 |
| Molecular Formula | Cr O3 |
| REACH registration number | 01-2119458868-17 |

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

| | |
|---------------------------------------|---|
| Recommended Use | Laboratory chemicals. |
| Sector of use | SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites |
| Product category | PC21 - Laboratory chemicals |
| Process categories | PROC15 - Use as a laboratory reagent |
| Environmental release category | ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates) |
| Uses advised against | All other uses |

1.3. Details of the supplier of the safety data sheet

Company

UK entity/business name
Fisher Scientific UK
Bishop Meadow Road, Loughborough,
Leicestershire LE11 5RG, United Kingdom

EU entity/business name
Thermo Fisher Scientific
Janssen Pharmaceuticaaan 3a
2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

Tel: 01509 231166
Chemtrec US: (800) 424-9300
Chemtrec EU: 001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

SAFETY DATA SHEET

Chromium (VI) oxide

Revision Date 09-Sep-2024

| | |
|--|---------------------|
| <u>Physical hazards</u> | |
| Oxidizing solids | Category 1 (H271) |
| <u>Health hazards</u> | |
| Acute oral toxicity | Category 3 (H301) |
| Acute dermal toxicity | Category 2 (H310) |
| Acute Inhalation Toxicity - Dusts and Mists | Category 2 (H330) |
| Skin Corrosion/Irritation | Category 1 A (H314) |
| Serious Eye Damage/Eye Irritation | Category 1 (H318) |
| Respiratory Sensitization | Category 1 (H334) |
| Skin Sensitization | 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) |
| Specific target organ toxicity - (repeated exposure) | Category 1 (H372) |
| <u>Environmental hazards</u> | |
| Acute aquatic toxicity | Category 1 (H400) |
| Chronic aquatic toxicity | Category 1 (H410) |

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

- 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 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
- H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements

- P220 - Keep away from clothing and other combustible materials
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

SAFETY DATA SHEET

Chromium (VI) oxide

Revision Date 09-Sep-2024

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician

Additional EU labelling

Restricted to professional users

2.3. Other hazards

In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment
Toxicity to Soil Dwelling Organisms
Toxic to terrestrial vertebrates
This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

| Component | CAS No | EC No | Weight % | GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567 |
|---------------------------------------|-----------|-------------------|----------|---|
| Chromium trioxide (CrO ₃) | 1333-82-0 | EEC No. 215-607-8 | >95 | Ox. Sol. 1 (H271) Acute Tox. 3 (H301) Acute Tox. 2 (H310) Acute Tox. 2 (H330) Skin Corr. 1A (H314) Eye Dam. 1 (H318) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) STOT SE 3 (H335) Muta. 1B (H340) Carc. 1A (H350) Repr. 2 (H361f) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) |

| Component | Specific concentration limits (SCL's) | M-Factor | Component notes |
|---------------------------------------|---------------------------------------|----------|-----------------|
| Chromium trioxide (CrO ₃) | STOT SE 3 (H335) :: C>=1% | 1 | - |

| | |
|----------------------------------|------------------|
| REACH registration number | 01-2119458868-17 |
|----------------------------------|------------------|

Full text of Hazard Statements: see section 16

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.

Eye Contact

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical

SAFETY DATA SHEET

Chromium (VI) oxide

Revision Date 09-Sep-2024

attention is required.

Ingestion

Do NOT induce vomiting. Call a physician or poison control center immediately.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. 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. Immediate medical attention is required.

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.

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

Causes burns by all exposure routes. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated

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

Notes to Physician

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. CO₂, dry chemical, dry sand, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

The product causes burns of eyes, skin and mucous membranes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.). Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products

Toxic fumes.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Evacuate personnel to safe areas. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid dust formation.

6.2. Environmental precautions

FSUC5920

SAFETY DATA SHEET

Chromium (VI) oxide

Revision Date 09-Sep-2024

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not ingest. If swallowed then seek immediate medical assistance. Do not breathe (dust, vapor, mist, gas). Avoid dust formation. Keep away from clothing and other combustible materials.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Do not store near combustible materials. Corrosives area. Store under an inert atmosphere. Protect from moisture.

Technical Rules for Hazardous Substances (TRGS) 510 Class 5.1A
Storage Class (LGK) (Germany)

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

| Component | The United Kingdom | European Union | Ireland |
|--------------------------|--|----------------|---------|
| Chromium trioxide (CrO3) | STEL: 0.03 mg/m ³ 15 min STEL: 0.065 mg/m ³ 15 min TWA: 0.01 mg/m ³ 8 hr TWA: 0.025 mg/m ³ 8 hr Carc. as Cr Resp. Sens. | | |

Biological limit values

List source(s):

SAFETY DATA SHEET

Chromium (VI) oxide

Revision Date 09-Sep-2024

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

| Component | Acute effects local (Inhalation) | Acute effects systemic (Inhalation) | Chronic effects local (Inhalation) | Chronic effects systemic (Inhalation) |
|--|----------------------------------|-------------------------------------|------------------------------------|---------------------------------------|
| Chromium trioxide (CrO ₃) 1333-82-0 (>95) | DMEL = 0.01mg/m ³ | | DMEL = 0.01mg/m ³ | |

Predicted No Effect Concentration (PNEC)

See values below.

| Component | Fresh water | Fresh water sediment | Water Intermittent | Microorganisms in sewage treatment | Soil (Agriculture) |
|--|-------------------|------------------------------|--------------------|------------------------------------|---------------------------|
| Chromium trioxide (CrO ₃) 1333-82-0 (>95) | PNEC = 0.0034mg/L | PNEC = 0.15mg/kg sediment dw | | PNEC = 0.21mg/L | PNEC = 0.031mg/kg soil dw |

| Component | Marine water | Marine water sediment | Marine water intermittent | Food chain | Air |
|--|-------------------|------------------------------|---------------------------|-----------------------|-----|
| Chromium trioxide (CrO ₃) 1333-82-0 (>95) | PNEC = 0.0034mg/L | PNEC = 0.15mg/kg sediment dw | | PNEC = 17000g/kg food | |

8.2. Exposure controls

Engineering Measures

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection

Goggles (European standard - EN 166)

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|---|-----------------------------------|-----------------|-------------|-----------------------|
| Natural rubber Nitrile rubber Neoprene PVC | See manufacturers recommendations | - | EN 374 | (minimum requirement) |

Skin and body protection

Long sleeved clothing.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits

SAFETY DATA SHEET

Chromium (VI) oxide

Revision Date 09-Sep-2024

are exceeded or if irritation or other symptoms are experienced
Recommended Filter type: Particulates filter conforming to EN 143

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Recommended half mask:- Particle filtering: EN149:2001
When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | | |
|--|--------------------------|--|
| Physical State | Solid | |
| Appearance | Reddish violet | |
| Odor | Odorless | |
| Odor Threshold | No data available | |
| Melting Point/Range | 196 °C / 384.8 °F | |
| Softening Point | No data available | |
| Boiling Point/Range | No information available | |
| Flammability (liquid) | Not applicable | Solid |
| Flammability (solid,gas) | No information available | |
| Explosion Limits | No data available | |
| Flash Point | No information available | Method - No information available |
| Autoignition Temperature | No data available | |
| Decomposition Temperature | 198 °C | |
| pH | 1 | 50g/l aq.sol |
| Viscosity | Not applicable | Solid |
| Water Solubility | 1660 g/L (20°C) | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Vapor Pressure | No information available | |
| Density / Specific Gravity | No data available | |
| Bulk Density | No data available | |
| Vapor Density | Not applicable | Solid |
| Particle characteristics | No data available | |

9.2. Other information

| | |
|-----------------------------|------------------------|
| Molecular Formula | Cr O3 |
| Molecular Weight | 99.99 |
| Oxidizing Properties | Oxidizer |
| Evaporation Rate | Not applicable - Solid |

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity Yes

10.2. Chemical stability Oxidizer: Contact with combustible/organic material may cause fire. Hygroscopic.

10.3. Possibility of hazardous reactions

SAFETY DATA SHEET

Chromium (VI) oxide

Revision Date 09-Sep-2024

Hazardous Polymerization Hazardous Reactions

Hazardous polymerization does not occur.
None under normal processing.

10.4. Conditions to avoid

Excess heat. Incompatible products. Exposure to moist air or water. Combustible material.

10.5. Incompatible materials

Bases. Alcohols. Amines. Ammonia. Hydrocarbons. Ketones. Acetone. Acid anhydrides. Metals. Reducing Agent. Finely powdered metals. Strong reducing agents. Combustible material.

10.6. Hazardous decomposition products

Toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

(a) acute toxicity;

Oral Category 3
Dermal Category 2
Inhalation Category 2

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------------------------------|-------------------------|----------------------------|--|
| Chromium trioxide (CrO ₃) | LD50 = 80 mg/kg (Rat) | LD50 = 57 mg/kg (Rabbit) | LC50 = 217 mg/m ³ (Rat) 4 h |

(b) skin corrosion/irritation; Category 1 A

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory Category 1
Skin Category 1

May cause sensitization by skin contact

(e) germ cell mutagenicity; Category 1B

Mutagenic; Ames test; positive

(f) carcinogenicity; Category 1A

The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component | EU | UK | Germany | IARC |
|---------------------------------------|--------------|----|---------|---------|
| Chromium trioxide (CrO ₃) | Carc Cat. 1A | | | Group 1 |

(g) reproductive toxicity;
Reproductive Effects
Teratogenicity

Category 2
Possible risk of impaired fertility.
Teratogenic effects have occurred in experimental animals.

(h) STOT-single exposure; Category 3

SAFETY DATA SHEET

Chromium (VI) oxide

Revision Date 09-Sep-2024

| | |
|--|--|
| Results / Target organs | Respiratory system. |
| (i) STOT-repeated exposure; | Category 1 |
| Target Organs | Eyes, Skin, Respiratory system, Gastrointestinal tract (GI), Reproductive System. |
| (j) aspiration hazard; | Not applicable Solid |
| Symptoms / effects,both acute and delayed | Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. |

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Fish | Water Flea | Freshwater Algae |
|---------------------------------------|---|------------|------------------|
| Chromium trioxide (CrO ₃) | LC50: = 40 mg/L, 96h static (Colisa fasciatus) | | |

| Component | Microtox | M-Factor |
|---------------------------------------|----------|----------|
| Chromium trioxide (CrO ₃) | | 1 |

12.2. Persistence and degradability

Persistence

Soluble in water, Persistence is unlikely, based on information available.

Degradability

Not relevant for inorganic substances.

Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely

12.4. Mobility in soil

The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB assessment

In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment.

12.6. Endocrine disrupting properties

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

SAFETY DATA SHEET

Chromium (VI) oxide

Revision Date 09-Sep-2024

12.7. Other adverse effects
Persistent Organic Pollutant
Ozone Depletion Potential

This product does not contain any known or suspected substance
This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused Products

Should not be released into the environment. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point.

European Waste Catalogue (EWC)

According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

Other Information

Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms. Solutions with low pH-value must be neutralized before discharge. Do not let this chemical enter the environment.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN 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

ADR

14.1. UN 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

IATA

14.1. UN 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

Dangerous for the environment
Product is a marine pollutant according to the criteria set by IMDG/IMO

14.6. Special precautions for user

No special precautions required.

14.7. Maritime transport in bulk

Not applicable, packaged goods

FSUC5920

SAFETY DATA SHEET

Chromium (VI) oxide

Revision Date 09-Sep-2024

according to IMO instruments

SECTION 15: REGULATORY INFORMATION

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

International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component | CAS No | EINECS | ELINCS | NLP | IECSC | TCSI | KECL | ENCS | ISHL |
|--------------------------|-----------|-----------|--------|-----|-------|------|----------|------|------|
| Chromium trioxide (CrO3) | 1333-82-0 | 215-607-8 | - | - | X | X | KE-06020 | X | X |

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|--------------------------|-----------|------|---|-----|------|------|-------|-------|
| Chromium trioxide (CrO3) | 1333-82-0 | X | ACTIVE | X | - | X | X | X |

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

Authorisation/Restrictions according to EU REACH

| Component | CAS No | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|--------------------------|-----------|--|---|---|
| Chromium trioxide (CrO3) | 1333-82-0 | Carcinogenic Category 1B, Mutagenic Category 1B Article 57 Application date: March 21, 2016 Sunset date: September 21, 2017 Exemption - None | Use restricted. See entry 72. (see link for restriction details) Use restricted. See entry 28. (see link for restriction details) Use restricted. See entry 29. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details) Use restricted. See entry 47. (see link for restriction details) | SVHC Candidate list - 215-607-8 - Carcinogenic, Article 57a; Mutagenic, Article 57b |

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

REACH links

<https://echa.europa.eu/authorisation-list>

<https://echa.europa.eu/substances-restricted-under-reach>

<https://echa.europa.eu/candidate-list-table>

Seveso III Directive (2012/18/EC)

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|--------------------------|-----------|---|--|
| Chromium trioxide (CrO3) | 1333-82-0 | Not applicable | Not applicable |

SAFETY DATA SHEET

Chromium (VI) oxide

Revision Date 09-Sep-2024

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

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 .

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women at work

Take note of Dir 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification

See table for values

| Component | Germany - Water Classification (AwSV) | Germany - TA-Luft Class |
|--------------------------|---------------------------------------|-------------------------|
| Chromium trioxide (CrO3) | WGK3 | |

| Component | France - INRS (Tables of occupational diseases) |
|--------------------------|--|
| Chromium trioxide (CrO3) | Tableaux des maladies professionnelles (TMP) - RG 10,RG 10bis,RG 10ter |

| Component | Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81) | Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC) | Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure |
|--|--|---|---|
| Chromium trioxide (CrO3) 1333-82-0 (>95) | Prohibited and Restricted Substances | | |

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H301 - Toxic if swallowed

H310 - Fatal in contact with skin

H330 - Fatal if inhaled

H314 - Causes severe skin burns and eye damage

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

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

SAFETY DATA SHEET

Chromium (VI) oxide

Revision Date 09-Sep-2024

H410 - Very toxic to aquatic life with long lasting effects
H271 - May cause fire or explosion; strong oxidizer

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Creation Date 24-Nov-2010
Revision Date 09-Sep-2024
Revision Summary Not applicable.

This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.

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