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

1.1. Product identification

Product Description: Chromium(III) acetylacetonate.
Cat No.: 192130000; 192130050; 192131000; 192135000
Synonyms: Chromium(III) 2,4-pentanedionate
CAS-No: 21679-31-2
EC-No.: 244-526-0
Molecular Formula: C15 H21 Cr O6
Reach Registration Number: 01-2120770965-39

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: No Information available

1.3. Details of the supplier of the safety data sheet

Company: Fisher Scientific UK
Bishop Meadow Road, Loughborough,
Leicestershire LE11 5RG, United Kingdom
EU entity/business name: Acros Organics BVBA
Janssen Pharmaceuticalaan 3a
2440 Geel, Belgium

E-mail address: begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information US call: 001-800-ACROS-01 / Europe call: +32 14 57 52 11
Emergency Number US:001-201-796-7100 / Europe: +32 14 57 52 99
CHEMTREC Tel. No.US:001-800-424-9300 / Europe:001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008
Physical hazards
Based on available data, the classification criteria are not met
SAFETY DATA SHEET

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2.2. Label elements

Signal Word Warning

Hazard Statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary Statements
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P337 + P313 - If eye irritation persists: Get medical advice/attention
P280 - Wear protective gloves/protective clothing/eye protection/face protection

2.3. Other hazards
No information available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>EC-No.</th>
<th>Weight %</th>
<th>CLP Classification - Regulation (EC) No 1272/2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium acetylacetonate</td>
<td>21679-31-2</td>
<td>EEC No. 244-526-0</td>
<td>&gt; 95</td>
<td>Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)</td>
</tr>
</tbody>
</table>

Reach Registration Number 01-2120770965-39

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES
4.1. Description of first aid measures

General Advice
If symptoms persist, call a physician.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion
Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Inhalation
Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

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

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

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

Notes to Physician
Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Extinguishing media which must not be used for safety reasons
Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products
Carbon monoxide (CO), Carbon dioxide (CO₂).

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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

6.2. Environmental precautions

Should not be released into the environment.
6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed 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. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

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 before re-use. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>The United Kingdom</th>
<th>European Union</th>
<th>Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium acetylacetonate</td>
<td>STEL: 1.5 mg/m³ 15 min</td>
<td>TWA: 0.5 mg/m³ 8 hr</td>
<td></td>
</tr>
</tbody>
</table>

Biological limit values
This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Monitoring methods
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Derived No Effect Level (DNEL) No information available

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Acute effects (local)</th>
<th>Acute effects (systemic)</th>
<th>Chronic effects (local)</th>
<th>Chronic effects (systemic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

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Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Measures

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

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

No protective equipment is needed under normal use conditions.

Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Small scale/Laboratory use

Maintain adequate ventilation

Environmental exposure controls

No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance

Purple

Physical State

Powder Solid

Odor

Odorless

Odor Threshold

No data available

pH

6

Melting Point/Range

212 °C / 413.6 °F

Boiling Point/Range

340 °C / 644 °F

Flash Point

No information available

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Evaporation Rate Not applicable Solid
Flammability (solid,gas) No information available
Explosion Limits No data available

Vapor Pressure No data available
Vapor Density Not applicable Solid
Specific Gravity / Density No data available
Bulk Density No data available
Water Solubility soluble
Solubility in other solvents No information available
Partition Coefficient (n-octanol/water)
Component log Pow
Chromium acetylacetonate -4.24

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity None known, based on information available

10.2. Chemical stability No information available.

10.3. Possibility of hazardous reactions

Hazardous Polymerization No information available.
Hazardous Reactions No information available.

10.4. Conditions to avoid Incompatible products.

10.5. Incompatible materials Oxidizing agents.

10.6. Hazardous decomposition products
Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information No acute toxicity information is available for this product

(a) acute toxicity;
   Oral Based on available data, the classification criteria are not met
   Dermal Based on available data, the classification criteria are not met
   Inhalation Based on available data, the classification criteria are not met
SAFETY DATA SHEET

Chromium(III) acetylacetonate

Component | LD50 Oral | LD50 Dermal | LC50 Inhalation
--- | --- | --- | ---
Chromium acetylacetonate | LD50 = 3360 mg/kg (Rat) | LD50 = 6350 mg/kg (Rabbit) | |

(b) skin corrosion/irritation; Category 2

c) serious eye damage/irritation; Category 2

d) respiratory or skin sensitization;
   - Respiratory
   - Skin
     Based on available data, the classification criteria are not met

(e) germ cell mutagenicity;
   Based on available data, the classification criteria are not met

(f) carcinogenicity;
   Based on available data, the classification criteria are not met
   There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;
   Based on available data, the classification criteria are not met

(h) STOT-single exposure;
   Based on available data, the classification criteria are not met

   Results / Target organs
   - Respiratory system.

(i) STOT-repeated exposure;
   Based on available data, the classification criteria are not met

   Target Organs
   - None known.

(j) aspiration hazard;
   Not applicable
   Solid

Other Adverse Effects

The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecotoxicity effects
Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

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

12.3. Bioaccumulative potential
Bioaccumulation is unlikely

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
<th>Bioconcentration factor (BCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium acetylacetonate</td>
<td>-4.24</td>
<td>No data available</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
The product is water soluble, and may spread in water systems. Will likely be mobile in the

ACR19213
12.5. Results of PBT and vPvB assessment

No data available for assessment.

12.6. Other adverse effects

<table>
<thead>
<tr>
<th>Endocrine Disruptor Information</th>
<th>Persistent Organic Pollutant</th>
<th>Ozone Depletion Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>This product does not contain any known or suspected endocrine disruptors</td>
<td>This product does not contain any known or suspected substance</td>
<td>This product does not contain any known or suspected substance</td>
</tr>
</tbody>
</table>

### SECTION 13: DISPOSAL CONSIDERATIONS

#### 13.1. Waste treatment methods

- **Waste from Residues / Unused Products**: 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 Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

### SECTION 14: TRANSPORT INFORMATION

- **IMDG/IMO**: Not regulated
  - **14.1. UN number**
  - **14.2. UN proper shipping name**
  - **14.3. Transport hazard class(es)**
  - **14.4. Packing group**

- **ADR**: Not regulated
  - **14.1. UN number**
  - **14.2. UN proper shipping name**
  - **14.3. Transport hazard class(es)**
  - **14.4. Packing group**

- **IATA**: Not regulated
  - **14.1. UN number**
  - **14.2. UN proper shipping name**
  - **14.3. Transport hazard class(es)**
  - **14.4. Packing group**

- **14.5. Environmental hazards**: No hazards identified

- **14.6. Special precautions for user**: No special precautions required

- **14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**: Not applicable, packaged goods

### SECTION 15: REGULATORY INFORMATION
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15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories  

\[
\begin{array}{|l|c|c|c|c|c|c|c|c|c|c|}
\hline
\text{Component} & \text{EINECS} & \text{ELINCS} & \text{NLP} & \text{TSCA} & \text{DSL} & \text{NDSL} & \text{PICCS} & \text{ENCS} & \text{IECSC} & \text{AICS} & \text{KECL} \\
\hline
\text{Chromium acetylacetonate} & 244-526-0 & - & X & - & X & X & X & - & X & KE-0600 & 7 \\
\hline
\end{array}
\]

National Regulations

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

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
H315 - Causes skin irritation  
H319 - Causes serious eye irritation

Legend

<table>
<thead>
<tr>
<th>CAS</th>
<th>Chemical Abstracts Service</th>
<th>TSCA</th>
<th>United States Toxic Substances Control Act Section 8(b) Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS/ELINCS</td>
<td>European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances</td>
<td>DSL/NDSL</td>
<td>Canadian Domestic Substances List/Non-Domestic Substances List</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Chemicals and Chemical Substances</td>
<td>ENCS</td>
<td>Japanese Existing and New Chemical Substances</td>
</tr>
<tr>
<td>IECSC</td>
<td>Chinese Inventory of Existing Chemical Substances</td>
<td>AICS</td>
<td>Australian Inventory of Chemical Substances</td>
</tr>
<tr>
<td>KECL</td>
<td>Korean Existing and Evaluated Chemical Substances</td>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
</tr>
<tr>
<td>WEL</td>
<td>Workplace Exposure Limit</td>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists</td>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived No Effect Level</td>
<td>PNEC</td>
<td>Predicted No Effect Concentration</td>
</tr>
<tr>
<td>RPE</td>
<td>Respiratory Protective Equipment</td>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
<td>EC50</td>
<td>Effective Concentration 50%</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
<td>POW</td>
<td>Partition coefficient Octanol:Water</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative, Toxic</td>
<td>vPvB</td>
<td>very Persistent, very Bioaccumulative</td>
</tr>
<tr>
<td>ADR</td>
<td>European Agreement Concerning the International Carriage of Dangerous Goods by Road</td>
<td>ICAO/IATA</td>
<td>International Civil Aviation Organization/International Air Transport Association</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
<td>ATE</td>
<td>Acute Toxicity Estimate</td>
</tr>
<tr>
<td>BCF</td>
<td>Bioconcentration factor</td>
<td>VOC</td>
<td>Volatile Organic Compounds</td>
</tr>
</tbody>
</table>

Key literature references and sources for data
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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.
Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.
Chemical incident response training.
This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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