

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 30.07.2016

Revision: 30.07.2016

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

- **1.1 Product identifier**
- **Trade name:** Bis(pentamethylcyclopentadienyl)chromium, min. 95% (Decamethylchromocene)
- **Item number:** 24-0150
- **CAS Number:**  
74507-61-2
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Strem Chemicals, Inc.  
7 Mulliken Way  
NEWBURYPORT, MA 01950  
USA  
info@strem.com
- **Further information obtainable from:** Technical Department
- **1.4 Emergency telephone number:**  
EMERGENCY: CHEMTREC: + 1 (800) 424-9300  
During normal opening times: +1 (978) 499-1600

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



Flam. Sol. 1 H228 Flammable solid.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02

- **Signal word** *Danger*
- **Hazard statements**  
H228 Flammable solid.
- **Precautionary statements**

|                |  |
|----------------|--|
| P101           | If medical advice is needed, have product container or label at hand.  |
| P102           | Keep out of reach of children.   |
| P103           | Read label before use.   |
| P231           | Handle under inert gas.  |
| P210           | Keep away from heat/sparks/open flames/hot surfaces. - No smoking.   |
| P301+P310      | IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P422           | Store contents under inert gas.  |

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

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**SECTION 3: Composition/information on ingredients**

- **3.1 Chemical characterisation: Substances**
- **CAS No. Description**  
74507-61-2 Bis(pentamethylcyclopentadienyl)chromium, min. 95%  
(Decamethylchromocene)

**SECTION 4: First aid measures**

- **4.1 Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

**SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** No special measures required.
- **6.3 Methods and material for containment and cleaning up:**  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 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.

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### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **Handling:** Handle under inert gas.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**  
Keep cool.  
Store contents under inert gas.
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Recommended storage temperature:** Store at temperatures not exceeding -18 °C.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses

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· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:** Powder  
 · **Colour:** Brown  
 · **Odour:** Odourless  
 · **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

· **Melting point/Melting range:** no data °C  
 · **Boiling point/Boiling range:** no data °C

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Flammable.

· **Ignition temperature:**

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Not determined.

· **Danger of explosion:** Not determined.

· **Explosion limits:**

· **Lower:** Not determined.  
 · **Upper:** Not determined.

· **Vapour pressure:** no data hPa

· **Density:** Not determined.  
 · **Relative density** Not determined.  
 · **Vapour density** Not applicable.  
 · **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with water:** Insoluble.

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

· **Viscosity:**

· **Dynamic:** Not applicable.  
 · **Kinematic:** Not applicable.

· **Solvent content:**

· **Organic solvents:** 0.0 %  
 · **VOC (EC)** 0.00 %

· **Solids content:** 100.0 %

· **9.2 Other information** No further relevant information available.

**SECTION 10: Stability and reactivity**

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.

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- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

**SECTION 11: Toxicological information**

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information**

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not known to be hazardous to water.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

**SECTION 13: Disposal considerations**

- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

**SECTION 14: Transport information**

- |                                       |                                       |
|---------------------------------------|---------------------------------------|
| · <b>14.1 UN-Number</b>               |                                       |
| · <b>ADR, IMDG, IATA</b>              | UN1325                                |
| · <b>14.2 UN proper shipping name</b> |                                       |
| · <b>ADR</b>                          | 1325 FLAMMABLE SOLID, ORGANIC, N.O.S. |
| · <b>IMDG</b>                         | FLAMMABLE SOLID, ORGANIC, N.O.S.      |

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|   |   |
|---|---|
| · <b>IATA</b>   | <i>Flammable solids, organic, n.o.s.</i>  |
| · <b>14.3 Transport hazard class(es)</b>  |   |
| · <b>ADR, IMDG</b>  |   |
|  |   |
| · <b>Class</b>  | 4   |
| · <b>Label</b>  | 4.1   |
| <hr style="border-top: 1px dashed #000;"/>  |   |
| · <b>IATA</b>   |   |
|  |   |
| · <b>Class</b>  | 4.1 <i>Flammable solids, self-reactive substances and solid desensitised explosives.</i>                      |
| · <b>Label</b>  | 4.1   |
| · <b>14.4 Packing group</b>   |   |
| · <b>ADR, IMDG, IATA</b>  | II  |
| · <b>14.5 Environmental hazards:</b>  |   |
| · <b>Marine pollutant:</b>  | No  |
| · <b>14.6 Special precautions for user</b>  | <i>Not applicable.</i>  |
| · <b>EMS Number:</b>  | F-A,S-G   |
| · <b>Stowage Category</b>   | B   |
| · <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>  | <i>Not applicable.</i>  |
| · <b>Transport/Additional information:</b>  |   |
| <hr style="border-top: 1px dashed #000;"/>  |   |
| · <b>ADR</b>  |   |
| · <b>Limited quantities (LQ)</b>  | 1 kg  |
| · <b>Excepted quantities (EQ)</b>   | Code: E2<br>Maximum net quantity per inner packaging: 30 g<br>Maximum net quantity per outer packaging: 500 g |
| · <b>UN "Model Regulation":</b>   | UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S., 4.1, II   |

**SECTION 15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I Substance is not listed.**
- **15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**

**SECTION 16: Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

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· **Department issuing MSDS:** Technical Department.

· **Contact:** Technical Director

· **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*

*IATA: International Air Transport Association*

*GHS: Globally Harmonised System of Classification and Labelling of Chemicals*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*VOC: Volatile Organic Compounds (USA, EU)*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Flam. Sol. 1: Flammable solids, Hazard Category 1*

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