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

*Printing date 01.07.2013* *Revision: 24.01.2007*

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

**1.1 Product identifier**
**Trade name** ***Zinc chromate***
**Stock number:** A18178
**CAS Number:** 13530-65-9
**EC number:** 236-878-9
**Index number:** 024-007-00-3
**1.2 Relevant identified uses of the substance or mixture and uses advised against.**
**Identified use:** SU24 Scientific research and development

**1.3 Details of the supplier of the safety data sheet**
**Manufacturer/Supplier:** Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com
**Informing department:** Product safety Tel + +049 (0) 7275 988687-0
**1.4 Emergency telephone number:** Carechem 24: +44 (o) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

## SECTION 2: Hazards identification

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


GHS08 health hazard

Carc. 1A H350 May cause cancer.


GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.


GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Skin Sens. 1 H317 May cause an allergic skin reaction.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

T; Toxic
R45: May cause cancer.

Xn; Harmful
R22: Harmful if swallowed.

Xi; Sensitising
R43: May cause sensitisation by skin contact.

N; Dangerous for the environment
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
**Information concerning particular hazards for human and environment:** Not applicable
**Other hazards that do not result in classification** No information known.

**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** GHS07, GHS08, GHS09
**Signal word** Danger
**Hazard statements** H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H350 May cause cancer.
H410 Very toxic to aquatic life with long lasting effects.
**Precautionary statements**
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P321 Specific treatment (see on this label).
P405 Store locked up.
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 Substances**
**CAS# Designation:** 13530-65-9 Zinc chromate
**Identification number(s):**
**EC number:** 236-878-9
**Index number:** 024-007-00-3

## SECTION 4: First aid measures

**4.1 Description of first aid measures**
**After inhalation** Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
Seek immediate medical advice.
**After skin contact** Instantly wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
**After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.
**After swallowing** Seek medical treatment.
**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

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**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** Use fire fighting measures that suit the environment.
**5.2 Special hazards arising from the substance or mixture** If this product is involved in a fire, the following can be released:
Toxic metal oxide smoke
**5.3 Advice for firefighters**
**Protective equipment:** Wear self-contained breathing apparatus.
Wear full protective suit.

## *SECTION 6: Accidental release measures*

**6.1 Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
**6.2 Environmental precautions:** Do not allow material to be released to the environment without proper governmental permits.
Do not allow product to reach sewage system or water bodies.
Do not allow to enter the ground/soil.
**6.3 Methods and material for containment and cleaning up:** Dispose of contaminated material as waste according to item 13.
**Prevention of secondary hazards:** No special measures required.
**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 information on disposal.

## *SECTION 7: Handling and storage*

**7.1 Precautions for safe handling** Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.
Open and handle container with care.
**Information about protection against explosions and fires:** The product is not flammable
**7.2 Conditions for safe storage, including any incompatibilities**
**Storage**
**Requirements to be met by storerooms and containers:** No special requirements.
**Information about storage in one common storage facility:** Store away from oxidizing agents.
**Further information about storage conditions:** Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Store in a locked cabinet or with access restricted to technical experts or their assistants.
**7.3 Specific end use(s)** No further relevant information available.

## *SECTION 8: Exposure controls/personal protection*

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

**8.1 Control parameters**
**Components with critical values that require monitoring at the workplace:**

Chromium (VI) compounds, as Cr

| | mg/m3 |
|---|---|
| ACGIH TLV | 0.05; Confirmed human carcinogen |
| Belgium TWA | 0.01 (insoluble)<br>0.05 (water soluble) |
| Germany MAK | 0.1 (production)(water soluble)<br>0.5 (other applications)(water soluble) |
| Netherlands MAC-TGG | 0.01 (water insoluble)<br>0.025 (water soluble)<br>0.05-STEL (water soluble) |
| Poland TWA | 0.025; 0.05-STEL |
| Sweden TWA | 0.02 |
| United Kingdom TWA | 0.05 |
| USA PEL | 0.1 (CrO3) (ceiling) |

**13530-65-9 Zinc chromate (100,0%)**

| | |
|---|---|
| MAK (TRGS 900) (Germany) | 0,05 E mg/m³<br>TRK, 12, 15, 26 (TRGS 901-3) |
| PEL (USA) | 0,005 mg/m³<br>as Cr |
| REL (USA) | 0,001 mg/m³<br>as Cr(VI), 10-hr TWA |
| TLV (USA) | 0,01 mg/m³<br>as Cr |

**Additional information:** No data

**8.2 Exposure controls**
**Personal protective equipment**
**General protective and hygienic measures** The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Store protective clothing separately.
Maintain an ergonomically appropriate working environment.
**Breathing equipment:** Use breathing protection with high concentrations.
**Protection of hands:** Check protective gloves prior to each use for their proper condition.
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.
**Material of gloves** Impervious gloves
**Penetration time of glove material** Not determined
**Eye protection:** Safety glasses

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**Body protection:** Protective work clothing.

## *SECTION 9: Physical and chemical properties*

**9.1 Information on basic physical and chemical properties**
**General Information**
**Appearance:**
**Form:** Powder
**Colour:** Yellow
**Smell:** Not determined
**Odour threshold:** Not determined.

**pH-value:** Not applicable.

**Change in condition**
**Melting point/Melting range:** Not determined
**Boiling point/Boiling range:** Not determined
**Sublimation temperature / start:** Not determined

**Flash point:** Not applicable
**Inflammability (solid, gaseous)** Not determined.
**Ignition temperature:** Not determined
**Decomposition temperature:** Not determined
**Self-inflammability:** Not determined.

**Danger of explosion:** Product is not explosive.
**Critical values for explosion:**
**Lower:** Not determined
**Upper:** Not determined
**Steam pressure:** Not applicable.
**Density at 20 °C** 3,4 g/cm³
**Relative density** Not determined.
**Vapour density** Not applicable.
**Evaporation rate** Not applicable.
**Solubility in / Miscibility with**
**Water:** Not determined
**Partition coefficient (n-octanol/water):** Not determined.
**Viscosity:**
**dynamic:** Not applicable.
**kinematic:** Not applicable.
**9.2 Other information** No further relevant information available.

## *SECTION 10: Stability and reactivity*

**10.1 Reactivity** No information known.
**10.2 Chemical stability** Stable under recommended storage conditions.
**Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.
**10.3 Possibility of hazardous reactions** No dangerous reactions known
**10.5 Incompatible materials:** Oxidizing agents
**10.6 Hazardous decomposition products:** Toxic metal oxide smoke

## *SECTION 11: Toxicological information*

**11.1 Information on toxicological effects**
**Acute toxicity:** Harmful if swallowed.
**LD/LC50 values that are relevant for classification:** No data
**Skin irritation or corrosion:** Irritant for skin and mucous membranes.
**Eye irritation or corrosion:** Irritant effect.
**Sensitization:** May cause an allergic skin reaction.
**Germ cell mutagenicity:** No effects known.
**Carcinogenicity:** May cause cancer.
IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.
ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans.
NTP-K: Known to be carcinogenic: sufficient evidence from human studies.
**Reproductive toxicity:** No effects known.
**Specific target organ system toxicity - repeated exposure:** No effects known.
**Specific target organ system toxicity - single exposure:** No effects known.
**Aspiration hazard:** No effects known.
**Other information (about experimental toxicology):** Tumorigenic effects have been observed on tests with laboratory animals.
Mutagenic effects have been observed on tests with bacteria.
Mutagenic effects have been observed on tests with laboratory animals.
**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

## *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.
**Ecotoxical effects:**
**Remark:** Very toxic for fish
**Additional ecological information:**
**General notes:** Do not allow product to reach ground water, water bodies or sewage system.
Do not allow material to be released to the environment without proper governmental permits.
Water danger class 3 (Self-assessment): extremely hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into soil.
Also poisonous for fish and plankton in water bodies.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Very toxic for aquatic organisms
**12.5 Results of PBT and vPvB assessment**
**PBT:** Not applicable.
**vPvB:** Not applicable.

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**12.6 Other adverse effects** No further relevant information available.

## *SECTION 13: Disposal considerations*

**13.1 Waste treatment methods**
**Recommendation** Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.

**Uncleaned packagings:**
**Recommendation:** Disposal must be made according to official regulations.

## *SECTION 14: Transport information*

**UN-Number**
**ADR, IMDG, IATA** UN3077

**14.2 UN proper shipping name**
**ADR** 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc chromate)
**IMDG, IATA** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc chromate)

**14.3 Transport hazard class(es)**

**ADR**

**Class** 9 (M7) Miscellaneous dangerous substances and articles.
**Label** 9

**IMDG**

**Class** 9 Miscellaneous dangerous substances and articles.
**Label** 9

**IATA**

**Class** 9 Miscellaneous dangerous substances and articles.
**Label** 9

**Packing group**
**ADR, IMDG, IATA** III

**14.5 Environmental hazards:**
**Special marking (ADR):** Symbol (fish and tree)
**Special marking (IATA):** Symbol (fish and tree)

**14.6 Special precautions for user** Warning: Miscellaneous dangerous substances and articles.
**Kemler Number:** 90

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

**Transport/Additional information:**

**ADR**
**Excepted quantities (EQ):** E1
**Limited quantities (LQ)** 5 kg
**Transport category** 3
**Tunnel restriction code** E

**UN "Model Regulation":** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc chromate), 9, III

## *SECTION 15: Regulatory information*

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
**Australian Inventory of Chemical Substances** Substance is listed.
**Standard for the Uniform Scheduling of Drugs and Poisons** Substance is not listed.
**National regulations**
**Information about limitation of use:** Workers should not be exposed to this hazardous material. Exceptions can be made by the authorities in certain exceptional cases.
Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.

**Water hazard class:** Water danger class 3 (Self-assessment): extremely hazardous for water.
**Other regulations, limitations and prohibitive regulations**
**ELINCS (European List of Notified Chemical Substances)** Substance is not listed.
**Substances of very high concern (SVHC) according to REACH, Article 57** Substance is not listed.
**REACH - Pre-registered substances** Substance is listed.
**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## *SECTION 16: Other information*

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

**Department issuing data specification sheet:** Health, Safety and Environmental Department.
**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 Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent