

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Trade name **Calcium chromate**
Stock number: 43333
CAS Number: 13765-19-0
EC number: 237-366-8
Index number: 024-008-00-9

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 (0) 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



GHS03 flame over circle

Ox. Sol. 3 H272 May intensify fire; oxidiser.



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.

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

T; Toxic

R45: May cause cancer.

Xn; Harmful

R22: Harmful if swallowed.

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****Hazard pictograms****Signal word****Hazard statements**

The substance is classified and labelled according to the CLP regulation.

GHS03, GHS07, GHS09

Warning

H272 May intensify fire; oxidiser.

H302 Harmful if swallowed.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P221 Take any precaution to avoid mixing with combustibles.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P220 Keep/Store away from clothing/combustible materials.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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: 13765-19-0 Calcium chromate

Identification number(s):

237-366-8

EC number:

024-008-00-9

Index number:

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.

After skin contact

Seek immediate medical advice.

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.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

Trade name **Calcium chromate**

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SECTION 5: Firefighting measures

- 5.1 Extinguishing media**
Suitable extinguishing agents
5.2 Special hazards arising from the substance or mixture
- CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- 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:**
- 6.4 Reference to other sections**
- No special measures required.
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:**
- No information known.
- 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:**
- No information known.
- 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)
0.05 (water soluble)

Germany MAK 0.1 (production)(water soluble)
0.5 (other applications)(water soluble)

Netherlands MAC-TGG 0.01 (water insoluble)
0.025 (water soluble)
0.05-STEEL (water soluble)

Poland TWA 0.025; 0.05-STEEL

Sweden TWA 0.02

United Kingdom TWA 0.05

USA PEL 0.005

13765-19-0 Calcium chromate (100,0%)

MAK (Germany)	einatembare Fraktion; vgl.Abschn.XIII
MAK (TRGS 900) (Germany)	0,05 E mg/m ³ TRK, 12, 15, 26 (TRGS 901-3)
PEL (USA)	Short-term value: C 0,1* mg/m ³ *as CrO ₃
REL (USA)	0,001 mg/m ³ as Cr(VI), 10-hr TWA
TLV (USA)	0,05 mg/m ³ 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:**Protection of hands:**

Use breathing protection with high concentrations.
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**Penetration time of glove material****Eye protection:**

Impervious gloves
Not determined
Safety glasses

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Revision: 05.09.2006

Printing date 01.07.2013

Trade name **Calcium chromate**

Body protection: Protective work clothing.

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SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****General Information****Appearance:**

Form: Crystalline
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: 2,89 g/cm³
Relative density: Not determined.
Vapour density: Not applicable.
Evaporation rate: Not applicable.

Solubility in / Miscibility with
Water at 20 °C: 163 g/l
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

Reacts with organic substances

Reacts with powdered metals

10.5 Incompatible materials:

Reducing agents

Halogens

No information known.

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.

Corrosive effect on skin and mucous membranes.

Eye irritation or corrosion:

Irritant effect.

Strong corrosive effect.

Sensitization:

No sensitizing effect known.

Germ cell mutagenicity:

No effects known.

Carcinogenicity:

EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and 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.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this product.

No effects known.

Reproductive toxicity:**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):

Mutagenic effects have been observed on tests with laboratory animals.

Mutagenic effects have been observed on tests with bacteria.

Reproductive effects have been observed on tests with laboratory animals.

Tumorigenic effects have been observed on tests with laboratory animals.

Carcinogenic 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.

Ecotoxicological effects:**Remark:**

Very toxic for fish

Additional ecological information:**General notes:**

Do not allow material to be released to the environment without proper governmental permits.

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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.

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 informationUN-Number
ADR, IMDG, IATA

UN3087

14.2 UN proper shipping nameADR
IMDG, IATA3087 OXIDIZING SOLID, TOXIC, N.O.S. (Calcium chromate)
OXIDIZING SOLID, TOXIC, N.O.S. (Calcium chromate)**14.3 Transport hazard class(es)**

ADR

Class
Label
IMDG, IATA5.1 (OT2) Oxidising substances.
5.1+6.1Class
Label5.1 Oxidising substances.
5.1+6.1Packing group
ADR, IMDG, IATA

III

14.5 Environmental hazards:

Environmentally hazardous substance, solid

14.6 Special precautions for user**Kemler Number:**

Warning: Oxidising substances.

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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":

UN3087, OXIDIZING SOLID, TOXIC, N.O.S. (Calcium chromate), 5.1 (6.1), 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:

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