

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 13.07.2010

Revision: 13.07.2010

1 Identification of substance

Product details

Trade name

Tricarbonylnitrosylcobalt

Stock number:

23151

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
Benzstrasse 3
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com
www.alfa-chemcat.com

Informing department:

Product safety department.

Emergency information:

Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon: +49(0)6131/19240

2 Hazards identification

Hazard designation:

T+ Very toxic
F Highly flammable

Information pertaining to particular dangers for man and environment

R 11 Highly flammable.
R 25 Toxic if swallowed.
R 26 Very toxic by inhalation.
R 40 Limited evidence of a carcinogenic effect.
R 43 May cause sensitisation by skin contact.

GHS label elements

**Danger**

H225 - Highly flammable liquid and vapour.

**Danger**H301 - Toxic if swallowed.
H330 - Fatal if inhaled.**Warning**

H351 - Suspected of causing cancer.

Warning

H317 - May cause an allergic skin reaction.

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

P280 Wear protective gloves/clothing.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310 Immediately call a POISON CENTER or doctor/physician.

Prevention:

Response:

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

Tricarbonylnitrosylcobalt (CAS# 14096-82-3)

Identification number(s):

EINECS Number:

237-945-5

4 First aid measures

General information

Instantly remove any clothing soiled by the product.

After inhalation

In case of irregular breathing or respiratory arrest provide artificial respiration.

Supply fresh air and call for doctor for safety reasons.

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.

After eye contact

Seek immediate medical advice.

After swallowing

Rinse opened eye for several minutes under running water. Then consult doctor.

Do not induce vomiting; instantly call for medical help.

Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents

Water.

Special hazards caused by the material, its products of combustion or flue gases:

Can be released in case of fire:

Carbon monoxide and carbon dioxide

Toxic metal oxide smoke

Nitrogen oxides (NO_x)

Wear self-contained breathing apparatus.

Wear full protective suit.

Protective equipment:

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Measures for environmental protection:

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

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

Keep away from ignition sources.

Additional information:

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

7 Handling and storage

Handling

Information for safe handling:

Handle under dry protective gas.

Keep containers tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Open and handle container with care.

Only handle and refill product in closed systems.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

(Contd. on page 2)

GB

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Trade name **Tricarbonylnitrosylcobalt**

(Contd. of page 1)

Fumes can combine with air to form an explosive mixture.

Storage Requirements to be met by storerooms and containers:
Information about storage in one common storage facility:

Refrigerate

Store away from oxidizing agents.
 Store away from air.
 Protect from heat.

Further information about storage conditions:

Store under dry inert gas.
 Avoid contact with air / oxygen.
 Keep container tightly sealed.
 Store in a locked cabinet or with access restricted to technical experts or their assistants.
 Refrigerate
 This product is air sensitive.

8 Exposure controls and 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.

Components with critical values that require monitoring at the workplace:

Cobalt, elemental & inorganic compounds, as Co

mg/m³

ACGIH TLV 0.02; Confirmed animal carcinogen
 Austria Carcinogen
 Belgium TWA 0.05
 Denmark TWA 0.05
 Finland TWA 0.05 (skin)
 Germany Carcinogen
 Hungary TWA 0.1; 0.2-STEL
 Japan OEL 0.05; 2B-Carcinogen
 Korea TLV 0.02; Confirmed animal carcinogen
 Netherlands MAC-TGG 0.05
 Norway TWA 0.05
 Poland TWA 0.05; 0.2-STEL
 Russia 0.5-STEL
 Sweden NGV 0.05
 Switzerland MAK-W 0.1; Carcinogen
 United Kingdom TWA 0.1
 USA PEL 0.1 (dust and fume)
 No data

Additional information:

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.
 Use breathing protection with high concentrations.
 Face protection
 Safety glasses
 Protective work clothing.

Breathing equipment:

Eye protection:

Body protection:

9 Physical and chemical properties:

General Information

Form: Liquid
Colour: Dark red
Smell: Unpleasant

Change in condition
Melting point/Melting range: -1°C
Boiling point/Boiling range: 48.6°C
Sublimation temperature / start: Not determined

Flash point: Not applicable
 Not determined

Ignition temperature: Not determined

Decomposition temperature: 55°C

Critical values for explosion:
Lower: Not determined
Upper: Not determined

Steam pressure: Not determined

Density at 20°C 1.47 g/cm³

Solubility in / Miscibility with Water: Not miscible or difficult to mix

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:

Materials to be avoided:

No decomposition if used and stored according to specifications.
 Oxidizing agents
 Air
 Heat
 No dangerous reactions known
 Carbon monoxide
 Nitrogen oxides (NO_x)
 Toxic metal oxide smoke
 Carbon monoxide and carbon dioxide

Dangerous reactions:

Dangerous products of decomposition:

11 Toxicological information

Acute toxicity:

Primary irritant effect: on the skin:

May cause irritation

(Contd. on page 3)

GB

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(Contd. of page 2)

on the eye:
Sensitization:
Additional toxicological information:

May cause irritation
 Sensitization possible by skin contact.
 To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
 IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.
 ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.
 May cause sensitisation by skin contact.

Sensitisation**12 Ecological information:**

Additional ecological information:
General notes:

Do not allow product to reach ground water, water bodies or sewage system.
 Water hazard class 2 (Self-assessment): hazardous for water.
 Danger to drinking water if even small quantities leak into soil.
 Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Product:
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.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**

ADR/RID-GGVS/E Class: 3 (FT1) Flammable liquids.
Kemler Number: 336
UN-Number: 1992
Packaging group: II
Label 3+6.1
Designation of goods: 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (Tricarbonylnitrosylcobalt)
Limited quantities (LQ) LQ0
Transport category 2
Tunnel restriction code D/E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 3
UN Number: 1992
Label 3+6.1
Packaging group: II
Marine pollutant: No
Correct technical name: FLAMMABLE LIQUID, TOXIC, N.O.S. (Tricarbonylnitrosylcobalt)

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 3
UN/ID Number: 1992
Label 3+6.1
Packaging group: II
Correct technical name: FLAMMABLE LIQUID, TOXIC, N.O.S. (Tricarbonylnitrosylcobalt)

UN "Model Regulation":

UN1992, FLAMMABLE LIQUID, TOXIC, N.O.S., 3 (6.1), II

15 Regulatory information**Designation according to EC guidelines:**

Code letter and hazard designation of product:

  T+ Very toxic
 F Highly flammable

Risk phrases:

11 Highly flammable.
 25 Toxic if swallowed.
 26 Very toxic by inhalation.
 40 Limited evidence of a carcinogenic effect.
 43 May cause sensitisation by skin contact.

Safety phrases:

16 Keep away from sources of ignition - No smoking.
 28 After contact with skin, wash immediately with plenty of soap and water.
 36/37 Wear suitable protective clothing and gloves.
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

National regulations**Information about limitation of use:**

For use only by technically qualified individuals.
 Employment restrictions concerning young persons must be observed.

Water hazard class:

Water hazard class 2 (Self-assessment): hazardous for water.

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.

(Contd. on page 4)

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(Contd. of page 3)

Department issuing data specification sheet: Health, Safety and Environmental Department.**Contact:** Zachariah Holt**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)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
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)

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