

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/01/2009

Reviewed on 01/18/2007

1 Identification of substance:**Product details:****Product name:** Dodecacarbonyltetrairidium**Stock number:** 10505**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company
 Johnson Matthey Catalog Company, Inc.
 30 Bond Street
 Ward Hill, MA 01835-8099
 Emergency Phone: (978) 521-6300
 CHEMTREC: (800) 424-9300
 Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department**Emergency information:**

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:**Chemical characterization:****Description: (CAS#)**

Dodecacarbonyltetrairidium (CAS# 11065-24-0); 100%

3 Hazards identification**Hazard description:**

T Toxic

Information pertaining to particular dangers for man and environment
 R 23/25 Toxic by inhalation and if swallowed.

Classification system**HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

HEALTH	3
FIRE	2
REACTIVITY	1

Health (acute effects) = 3

Flammability = 2

Reactivity = 1

GHS label elements**Danger**

3.1/2 - Fatal if swallowed.

3.1/2 - Fatal if inhaled.

Prevention:

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear respiratory protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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

Immediately call a POISON CENTER or doctor/physician.

Specific treatment is urgent (see label).

Specific treatment (see label).

Rinse mouth.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Disposal:

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

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4 First aid measures**General information**

Immediately remove any clothing soiled by the product.

Remove breathing apparatus only after contaminated clothing has been completely removed.

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

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately 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 a doctor.

After swallowing

Do not induce vomiting; immediately call for medical help.

Seek immediate medical advice.

5 Fire fighting measures**Suitable extinguishing agents**

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

Metal oxide fume

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Measures for environmental protection:

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

Measures for cleaning/collecting:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling****Information for safe handling:**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

No special precautions are necessary if used correctly.

Information about protection against explosions and fires:

This compound decomposes when heated, releasing metal oxide fumes.

Storage**Requirements to be met by storerooms and receptacles:** 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.

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 limit values that require monitoring at the workplace: Not required.**Additional information:** No data

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Personal protective equipment**General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Breathing equipment: Use suitable respirator when high concentrations are present.**Protection of hands:** Impervious gloves**Eye protection:** Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties:****General Information**

Form:	Crystalline powder
Color:	Yellow
Odor:	Not determined

Change in condition**Melting point/Melting range:** Decomposes before melting.**Boiling point/Boiling range:** Not determined**Sublimation temperature / start:** Not determined**Flash point:** Not applicable**Flammability (solid, gaseous)** Powder: flammable**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Danger of explosion:** Product does not present an explosion hazard.**Explosion limits:****Lower:** Not determined**Upper:** Not determined**Vapor pressure:** Not determined**Density:** Not determined**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

This compound decomposes when heated, releasing metal oxide fumes.

Materials to be avoided: Oxidizing agents**Dangerous reactions** No dangerous reactions known**Dangerous products of decomposition:**

Carbon monoxide and carbon dioxide

Metal oxide fume

11 Toxicological information**Acute toxicity:****Primary irritant effect:****on the skin:** May cause irritation**on the eye:** May cause irritation**Sensitization:** No sensitizing effects known.**Subacute to chronic toxicity:**

Exposure to iridium compounds may cause irritation to the eyes or respiratory tract.

Toxicity of iridium is not known. It is predicted to have toxicity similar to osmium and platinum, two members of the same group.

Carbonyl compounds are toxic due to decomposition yielding carbon monoxide. Symptoms include asphyxia, headache, mental confusion, dizziness, impairment of vision and hearing, and fainting. High exposures can result in unconsciousness and death due to the inability of hemoglobin to carry oxygen to the tissues.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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

13 Disposal considerations**Product:**

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information**DOT regulations:**

Hazard class: 6.1
Identification number: UN3466
Packing group: II
Proper shipping name (technical name): METAL CARBONYLS, SOLID, N.O.S.
 (Dodecacarbonyltetrairidium)
Label 6.1

Land transport ADR/RID (cross-border)

ADR/RID class: 6.1 (T3) Toxic substances
Danger code (Kemler): 60
UN-Number: 3466
Packaging group: II
Description of goods: 3466 METAL CARBONYLS, SOLID, N.O.S.
 (Dodecacarbonyltetrairidium)

Maritime transport IMDG:

IMDG Class: 6.1
UN Number: 3466
Label 6.1
Packaging group: II
Proper shipping name: METAL CARBONYLS, SOLID, N.O.S.
 (Dodecacarbonyltetrairidium)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 6.1
UN/ID Number: 3466
Label 6.1
Packaging group: II

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Proper shipping name: METAL CARBONYLS, SOLID, N.O.S.
(Dodecacarbonyltetrairidium)

UN "Model Regulation": UN3466, METAL CARBONYLS, SOLID, N.O.S., 6.1, II

15 Regulations**Product related hazard informations:**

Observe the general safety regulations when handling chemicals

Hazard symbols:

T Toxic

Risk phrases:

23/25 Toxic by inhalation and if swallowed.

Safety phrases:

- 4 Keep away from living quarters.
- 9 Keep container in a well-ventilated place.
- 20 When using do not eat or drink.
- 36 Wear suitable protective clothing.
- 45 In case of accident or if you feel unwell, seek medical advice immediately.
- 60 This material and its container must be disposed of as hazardous waste.

National regulations

This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only.

Some or all of the components of this product are not listed on the Canadian Domestic Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL).

Information about limitation of use: For use only by technically qualified individuals.

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 MSDS: 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
DOT: US Department of Transportation
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
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)

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