

# Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 13.05.2010

Printing date 01.07.2013

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

Trade name

**Dysprosium(III) isopropoxide, 5% w/v intoluene/isopropanol**

Stock number:

36585

CAS Number:

6742-68-3

**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 (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



GHS02 flame

Flam. Liq. 2, H225 Highly flammable liquid and vapour.



GHS08 health hazard

Repr. 2, H361d Suspected of damaging the unborn child.

STOT RE 2, H373 May cause damage to the kidneys, the liver, the respiratory system, the blood tissue, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Inhalative.

Asp. Tox. 1, H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2, H315 Causes skin irritation.

Eye Irrit. 2, H319 Causes serious eye irritation.

STOT SE 3, H336 May cause drowsiness or dizziness.

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

Xn; Harmful

R48/20-63-65: Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed.

Xi; Irritant

R36/38: Irritating to eyes and skin.

F; Highly flammable

R11: Highly flammable.

R67: Vapours may cause drowsiness and dizziness.

**Information concerning particular hazards**

for human and environment:

Has a narcotizing effect.

**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.

GHS02, GHS07, GHS08

Danger

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H361d Suspected of damaging the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to the kidneys, the liver, the respiratory system, the blood tissue, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Inhalative.

H304 May be fatal if swallowed and enters airways.

P280 Wear protective gloves / protective clothing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P310 Immediately call a POISON CENTER or doctor/physician.

**Precautionary statements****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:

6742-68-3 Dysprosium(III) isopropoxide, 5% w/v intoluene/isopropanol

**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.

After eye contact

Seek immediate medical advice.

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

After swallowing

Seek medical treatment.

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**4.2 Most important symptoms and effects, both acute and delayed**  
**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.  
No further relevant information available.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**  
**Suitable extinguishing agents**  
**5.2 Special hazards arising from the substance or mixture**

CO<sub>2</sub>, sand, extinguishing powder. Do not use water.  
If this product is involved in a fire, the following can be released:  
Carbon monoxide and carbon dioxide  
Metal oxide

**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  
Keep away from ignition sources

**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:**

Keep away from ignition sources.  
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.

**Prevention of secondary hazards:**

**6.4 Reference to other sections**

Keep away from ignition sources.  
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**

Handle under dry protective gas.  
Keep containers tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation/exhaustion at the workplace.

**Information about protection against explosions and fires:**

Protect against electrostatic charges.  
Fumes can combine with air to form an explosive mixture.

**7.2 Conditions for safe storage, including any incompatibilities**  
**Storage**  
**Requirements to be met by storerooms and containers:**

Store in cool location.

**Information about storage in one common storage facility:**

Store away from oxidizing agents.  
Store away from water.

**Further information about storage conditions:**

Store under dry inert gas.  
This product is moisture sensitive.  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
Protect from humidity and keep away from water.

**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:**

Toluene  
ppm  
ACGIH TLV 50 (skin); Not classified as a human carcinogen  
Austria MAK 100  
Belgium TWA 100; 150-STEL  
Denmark TWA 35 (skin)  
Finland TWA 100; 150-STEL (skin)  
France VME 100; 150-VLE  
Germany MAK 50  
Hungary TWA 100; 300-STEL (skin)  
Japan OEL 50  
Korea TLV 50  
Netherlands MAC-TGG 40  
Norway TWA 25  
Poland TWA 100 mg/m<sup>3</sup>; 350 mg/m<sup>3</sup>-STEL  
Russia TWA 100; 50-STEL  
Sweden NGV 50; 100-TKV (skin)  
Switzerland MAK-W 50; 250-KZG-W  
United Kingdom TWA 50; 150-STEL  
OSHA PEL 200  
  
Isopropyl alcohol (2-Propanol)  
ppm  
ACGIH TLV 400; 500-STEL  
Austria MAK 400  
Belgium TWA 400; 500-STEL  
Denmark TWA 200  
France VLE 400  
Germany MAK 400  
Ireland TWA 400; 500-STEL (skin)  
Japan TWA 400-STEL  
Korea TWA 400; 500-STEL

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Netherlands MAC-TGG 400 (skin)  
 Norway TWA 100  
 Poland TWA 900; 1200-STEL  
 Russia TWA 400-STEL  
 Sweden NGV 150; 250-STEL  
 Switzerland MAK-W 400  
 United Kingdom TWA 400; 500-STEL  
 OSHA PEL 400  
 No data

**Additional information:****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.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

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.

Impervious gloves

Not determined

Safety glasses

Face protection

Protective work clothing.

**Breathing equipment:****Protection of hands:****Material of gloves****Penetration time of glove material****Eye protection:****Body protection:****SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

**Form:** Liquid  
**Colour:** Colourless  
**Smell:** Aromatic  
**Odour threshold:** Not determined.

**pH-value:** Not determined.**Change in condition**

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

**Flash point:** 4 °C (Toluene)  
**Inflammability (solid, gaseous)** Not determined.  
**Ignition temperature:** Not determined  
**Decomposition temperature:** Not determined  
**Self-inflammability:** Not determined.  
**Critical values for explosion:**  
**Lower:** Not determined  
**Upper:** Not determined  
**Steam pressure:** Not determined  
**Density** Not determined  
**Relative density** Not determined.  
**Vapour density** Not determined.  
**Evaporation rate** Not determined.  
**Solubility in / Miscibility with**  
**Water:** Hydrolyzes  
**Partition coefficient (n-octanol/water):** Not determined.  
**Viscosity:**  
**dynamic:** Not determined.  
**kinematic:** Not determined.  
**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 oxidizing agents

**10.5 Incompatible materials:**

Oxidizing agents

Water/moisture

Carbon monoxide and carbon dioxide

Metal oxide

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity:**

No effects known.

**LD/LC50 values that are relevant for classification:**

No data

**Skin irritation or corrosion:**

Causes skin irritation.

**Eye irritation or corrosion:**

Causes serious eye irritation.

**Sensitization:**

No sensitizing effect known.

**Germ cell mutagenicity:**

No effects known.

**Carcinogenicity:**

EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.

IARC-3: Not classifiable as to carcinogenicity to humans.

ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

Suspected of damaging fertility or the unborn child.

**Reproductive toxicity:****Specific target organ system toxicity - repeated exposure:**

May cause damage to the kidneys, the liver, the respiratory system, the blood tissue, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Inhalative.

**Specific target organ system toxicity - single exposure:**

May cause drowsiness or dizziness.

**Aspiration hazard:**

May be fatal if swallowed and enters airways.

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Trade name **Dysprosium(III) isopropoxide, 5% w/v in toluene/isopropanol****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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**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:**

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

Water hazard class 1 (Self-assessment): slightly hazardous for water.

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

Avoid transfer into the environment.

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

UN1993

**14.2 UN proper shipping name****ADR**

1993 FLAMMABLE LIQUID, N.O.S. , special provision 640D (toluene/isopropanol)

**IMDG, IATA**

FLAMMABLE LIQUID, N.O.S. (toluene/isopropanol)

**14.3 Transport hazard class(es)****ADR****Class****Label****IMDG, IATA**

3 (F1) Flammable liquids.

3

**Class****Label**

3 Flammable liquids.

3

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

II

**14.5 Environmental hazards:**

Not applicable.

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

Warning: Flammable liquids.

**EMS Number:**

33

F-E,S-E

**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):**

E2

**Limited quantities (LQ)**

1L

**Transport category**

2

**Tunnel restriction code**

D/E

**UN "Model Regulation":**

UN1993, FLAMMABLE LIQUID, N.O.S. , special provision 640D (toluene/isopropanol), 3, II

**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 not listed.

**Standard for the Uniform Scheduling of****Drugs and Poisons**

Substance is not listed.

**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 1 (Self-assessment): slightly 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 not 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.

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**Trade name** *Dysprosium(III) isopropoxide, 5% w/v in toluene/isopropanol***Abbreviations and acronyms:**

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RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
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)  
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  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent

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