

Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 11.05.2010

Printing date 01.07.2013

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

1.1 Product identifier

Trade name

Samarium isopropoxide, 5% w/v in toluene/isopropanol

Stock number:

41311

CAS Number:

3504-40-3

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 heart, the reproductive system, the blood tissue, the endocrine system and the immune system through prolonged or repeated exposure. Route of exposure: Inhalative.



GHS05 corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.



GHS07

STOT SE 3 H336 May cause drowsiness or dizziness.

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



C; Corrosive

R34: Causes burns.



Xn; Harmful

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



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, GHS05, GHS07, GHS08

Danger

H225 Highly flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

H361d Suspected of damaging the unborn child.

H336 May cause drowsiness or dizziness.

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

Precautionary statements

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

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

P310 Immediately call a POISON CENTER or doctor/physician.

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:

3504-40-3 Samarium isopropoxide, 5% w/v in toluene/isopropanol

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

After inhalation

Instantly remove any clothing soiled by the product.

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.

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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

Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.

5.2 Special hazards arising from the substance or mixture

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).
Use neutralizing agent.
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

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:
Information about storage in one common storage facility:
Further information about storage conditions:

Store in cool location.

Store away from oxidizing agents.

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.
No further relevant information available.

7.3 Specific end use(s)

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/m3; 350 mg/m3-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
Netherlands MAC-TGG 400 (skin)
Norway TWA 100

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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

Tightly sealed safety glasses.

Full 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:** Clear**Smell:** Alcohol-like**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 (approx)**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

Interhalogens

Halogens

Carbon monoxide and carbon dioxide

Metal oxide

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

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

LD/LC50 values that are relevant for classification:

No data

Skin irritation or corrosion:

Causes severe skin burns.

Eye irritation or corrosion:

Irritant effect.

Causes serious eye damage.

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 heart, the reproductive system, the blood tissue, the endocrine system and the immune system through prolonged or repeated exposure. Route of exposure: Inhalative.

Specific target organ system toxicity - single exposure:

May cause drowsiness or dizziness.

Aspiration hazard:

No effects known.

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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:

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**

UN3274

14.2 UN proper shipping name**ADR**

3274 ALKOHOLATES SOLUTION, N.O.S. (Samarium isopropoxide/Toluene/Isopropanolsolution)

IMDG, IATA

ALKOHOLATES SOLUTION, N.O.S. (Samarium isopropoxide/Toluene/Isopropanolsolution)

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

3 (FC) Flammable liquids.

3+8

**Class****Label**

3 Flammable liquids.

3+8

Packing group**ADR, IMDG, IATA**

II

14.5 Environmental hazards:

Not applicable.

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

Warning: Flammable liquids.

338

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":

UN3274, ALKOHOLATES SOLUTION, N.O.S. (Samarium isopropoxide/Toluene/Isopropanolsolution), 3 (8), 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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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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