

Safety Data Sheet
according to 1907/2006/EC, Article 31

Revision: 13.07.2010

Printing date 13.07.2010

1 Identification of substance**Product details**

Trade name

Gadolinium gallium isopropoxide, 25% w/v in isopropanol

Stock number:

36582

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:

Xi Irritant
F Highly flammable

Information pertaining to particular dangers for man and environment

Has a narcotizing effect.
R 11 Highly flammable.
R 36/38 Irritating to eyes and skin.
R 67 Vapours may cause drowsiness and dizziness.

GHS label elements

**Danger**

H225 - Highly flammable liquid and vapour.

**Warning**H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 Wear protective gloves.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Prevention:

Response:

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

Gadolinium gallium isopropoxide (CAS# 51062-97-6): 25%
Isopropanol (CAS# 67-63-0): 75%**4 First aid measures**General information
After inhalationInstantly 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.

After eye contact

Seek immediate medical advice.

After swallowing

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

Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

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

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
Metal oxide

Protective equipment:

Wear self-contained breathing apparatus.
Wear full protective suit.**6 Accidental release measures**

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Measures for cleaning/collecting:

Ensure adequate ventilation
Keep away from ignition sources
Do not allow material to be released to the environment without proper governmental permits.
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.
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.

Additional information:

7 Handling and storage

Handling

Information 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:

Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
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:

Store in cool location.

Further information about storage conditions:

Store away from water.
Store away from oxidizing agents.
Do not store together with acids.Store under dry inert gas.
This product is moisture sensitive.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.(Contd. on page 2)
GB

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(Contd. of page 1)

Protect from humidity and keep away from water.
Store in a locked cabinet or with access restricted to technical experts or their assistants.

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:

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
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:**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.
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.

Breathing equipment:**Protection of hands:****Material of gloves****Penetration time of glove material****Eye protection:**

Impervious gloves
Not determined
Safety glasses
Tightly sealed safety glasses.
Full face protection
Face protection
Protective work clothing.

Body protection:**9 Physical and chemical properties:****General Information**

Form: Liquid
Smell: Alcohol-like

Change in condition

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

Flash point: 12°C (Isopropanol)**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Critical values for explosion:**

Lower: Not determined
Upper: Not determined

Steam pressure: Not determined**Density** Not determined**Solubility in / Miscibility with****Water:** Hydrolyzes**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:****Materials to be avoided:**

No decomposition if used and stored according to specifications.
Water/moisture
Oxidizing agents
Acids

Dangerous reactions:**Dangerous products of decomposition:**

No dangerous reactions known
Carbon monoxide and carbon dioxide
Metal oxide

11 Toxicological information**Acute toxicity:****Primary irritant effect:****on the skin:****on the eye:****Sensitization:****Additional toxicological information:**

Irritant for skin and mucous membranes.
Irritant effect.

No sensitizing effect known.

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

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.

GB
(Contd. on page 3)

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(Contd. of page 2)

12 Ecological information:

Additional ecological information:
General notes:

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.
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 (F1) Flammable liquids.
Kemler Number: 33
UN-Number: 1219
Packaging group: II
Label: 3
Designation of goods: 1219 ISOPROPANOL (ISOPROPYL ALCOHOL)
Limited quantities (LQ): LQ4
Transport category: 2
Tunnel restriction code: D/E

Maritime transport IMDG/GGVSea:



IMDG/GGVSea Class: 3
UN Number: 1219
Label: 3
Packaging group: II
EMS Number: F-E,S-D
Marine pollutant: No
Correct technical name: ISOPROPANOL (ISOPROPYL ALCOHOL)

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 3
UN/ID Number: 1219
Label: 3
Packaging group: II
Correct technical name: ISOPROPANOL (ISOPROPYL ALCOHOL)

UN "Model Regulation":

UN1219, ISOPROPANOL (ISOPROPYL ALCOHOL), 3, II

15 Regulatory information

Designation according to EC guidelines:

Code letter and hazard designation of product:



Xi Irritant
F Highly flammable

Risk phrases:

11 Highly flammable.
36/38 Irritating to eyes and skin.
67 Vapours may cause drowsiness and dizziness.

Safety phrases:

16 Keep away from sources of ignition - No smoking.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37 Wear suitable gloves.

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.

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.

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

CAS: Chemical Abstracts Service (division of the American Chemical Society)