

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

Trade name

Tin(IV) isopropoxide, 99% (metals basis), 10% w/v in isopropanol

Stock number:

45480

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.



GHS05 corrosion

Skin Corr. 1B, 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.



F; Highly flammable

R11: Highly flammable.

R67: Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
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

The product is classified and labelled according to the CLP regulation.
GHS02, GHS05, GHS07
Danger

Hazard-determining components of labelling:

Hazard statements

Tin(IV) isopropoxide
H225 Highly flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.
H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
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.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

SECTION 3: Composition/information on ingredients**3.2 Mixtures****Dangerous components:**

CAS: 67-63-0 EINECS: 200-661-7	2-Propanol Xi R36; F R11 R67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	90,0%
CAS: 1184-61-8	Tin(IV) isopropoxide C R34; Xn R20/21/22; F R11 Flam. Sol. 1, H228; Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	10,0%

Additional information

None known.

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.

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.

Safety data sheet
according to 1907/2006/EC, Article 31

Revision: 23.08.2012

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Trade name **Tin(IV) isopropoxide, 99% (metals basis), 10% w/v in isopropanol**

(Contd. of page 1)

After swallowing Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

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.
Keep away from ignition sources.

Prevention of secondary hazards: See Section 7 for information on safe handling

6.4 Reference to other sections 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 water.
Store away from oxidizing agents.

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.
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:****67-63-0 2-Propanol (90,0%)**

AGW (Germany)	500 mg/m ³ , 200 ppm 2(II);DFG, Y
PEL (USA)	980 mg/m ³ , 400 ppm
REL (USA)	Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm
TLV (USA)	Short-term value: 984 mg/m ³ , 400 ppm Long-term value: 492 mg/m ³ , 200 ppm BEI

Ingredients with biological limit values:**67-63-0 2-Propanol (90,0%)**

BGW (Germany)	50 mg/l B b Aceton
BEI (USA)	50mg/l U b Aceton 40 mg/L urine end of shift at end of workweek Acetone (background, nonspecific)

Additional information: No data(Contd. on page 3)
DE/E

Trade name **Tin(IV) isopropoxide, 99% (metals basis), 10% w/v in isopropanol**

(Contd. of page 2)

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.

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

Impervious gloves

Not determined

Tightly sealed safety glasses.

Full face protection

Body protection:

Protective work clothing.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****General Information****Appearance:****Form:** Liquid**Colour:** Colourless**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**Inflammability (solid, gaseous)** Not determined.**Ignition temperature:** 455 °C**Decomposition temperature:** Not determined**Self-inflammability:** Product is not selfigniting.**Critical values for explosion:****Lower:** 2,0 Vol %**Upper:** 12,0 Vol %**Steam pressure at 20 °C:** 48 hPa**Density** Not determined**Relative density** Not determined.**Vapour density** Not determined.**Evaporation rate** Not determined.**Solubility in / Miscibility with****Water:** Fully miscible**Partition coefficient (n-octanol/water):** Not determined.**Viscosity:****dynamic:** Not determined.**kinematic:** Not determined.**Solvent content:****Organic solvents:** 90,0 %**Solids content:** 10,0 %**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 strong oxidizing agents

10.5 Incompatible materials:

Water/moisture

Oxidizing agents

10.6 Hazardous decomposition products:

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.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

LD/LC50 values that are relevant for classification:**67-63-0 2-Propanol**

Oral LD50 3600 mg/kg (mouse)

5000 mg/kg (rat)

Dermal LD50 12800 mg/kg (rabbit)

Inhalative LC50/8H 16000 ppm/8H (rat)

Skin irritation or corrosion:

Causes severe skin burns.

Eye irritation or corrosion:

Causes serious eye damage.

Sensitization:

No sensitizing effect known.

Germ cell mutagenicity:

No effects known.

Carcinogenicity:

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.

Reproductive toxicity:

No effects known.

Specific target organ system toxicity -**repeated exposure:** No effects known.**Specific target organ system toxicity - single****exposure:** May cause drowsiness or dizziness.**Aspiration hazard:**

No effects known.

(Contd. on page 4)
DE/E

Trade name **Tin(IV) isopropoxide, 99% (metals basis), 10% w/v in isopropanol****Additional toxicological information:**

(Contd. of page 3)

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive and/or mutation data for components in this product. The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Corrosive

SECTION 12: Ecological information**12.1 Toxicity**

No further relevant information available.

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.

Recommended cleaning agent:

Water, if necessary with cleaning agent.

SECTION 14: Transport information**UN-Number****ADR, IMDG, IATA**

UN3274

14.2 UN proper shipping name**ADR****IMDG, IATA**3274 ALKOHOLATES SOLUTION, N.O.S. (Tin(IV) isopropoxide)
ALKOHOLATES SOLUTION, N.O.S. (Tin(IV) isopropoxide)**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:**Marine pollutant:**

No

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. (Tin(IV) isopropoxide), 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**

67-63-0 | 2-Propanol

Standard for the Uniform Scheduling of Drugs and Poisons

None of the ingredients is listed.

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

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

Classification according to VbF:

Not applicable

Technical instructions (air):

Class	Share in %
NK	90,0

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)**

None of the ingredients is listed.

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(Contd. of page 4)

Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients are listed.

REACH - Pre-registered substances

67-63-0 | 2-Propanol

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.

Relevant phrases

H225	Highly flammable liquid and vapour.
H228	Flammable solid.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
R11	Highly flammable.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R34	Causes burns.
R36	Irritating to eyes.
R67	Vapours may cause drowsiness and dizziness.

Department issuing data specification sheet: Health, Safety and Environmental Department.**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)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

DE/E