

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 22.10.2012

Version 6.9

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

1.1 Product identifier

Catalogue No.	807476
Product name	Isopropylamine for synthesis
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal (www.merck-chemicals.com).
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1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number	Please contact the regional company representation in your country.
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SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquid, Category 1, H224
Eye irritation, Category 2, H319
Specific target organ toxicity - single exposure, Category 3, Respiratory system, H335
Skin irritation, Category 2, H315

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)

F+	Extremely flammable	R12
Xi	Irritant	R36/37/38

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word
Danger

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Catalogue No. 807476
Product name Isopropylamine for synthesis

Hazard statements

H224 Extremely flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233 Keep container tightly closed.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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

P403 + P235 Store in a well-ventilated place. Keep cool.

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word
Danger

Hazard statements

H224 Extremely flammable liquid and vapour.



Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P403 + P235 Store in a well-ventilated place. Keep cool.

Index-No. 612-007-00-1

Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)	 F+  Xi	Extremely flammable Irritant
R-phrases(s)	12-36/37/38	Extremely flammable. Irritating to eyes, respiratory system and skin.
S-phrases(s)	16-26-29	Keep away from sources of ignition - No smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Do not empty into drains.

EC-No. 200-860-9 EC Label

Reduced labelling (≤125 ml)

Symbol(s)	 F+  Xi	Extremely flammable Irritant
R-phrases(s)	12	Extremely flammable.

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula	(CH ₃) ₂ CHNH ₂	C ₃ H ₉ N (Hill)
CAS-No.	75-31-0	
Index-No.	612-007-00-1	

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EC-No. 200-860-9
Molar mass 59,11 g/mol

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration)

CAS-No. Registration number Classification

2-aminopropane; isopropylamine (<= 100 %)

75-31-0 *) Flammable liquid, Category 1, H224
Eye irritation, Category 2, H319
Specific target organ toxicity - single exposure, Category 3, H335
Skin irritation, Category 2, H315

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

Hazardous components (1999/45/EC)

Chemical Name (Concentration)

CAS-No. Classification

2-aminopropane; isopropylamine (<= 100 %)

75-31-0 F+, Extremely flammable; R12
Xi, Irritant; R36/37/38

For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

irritant effects, Cough, Shortness of breath, narcosis

Risk of corneal clouding.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible.

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Vapours are heavier than air and may spread along floors.
Forms explosive mixtures with air at ambient temperatures.
Pay attention to flashback.
Development of hazardous combustion gases or vapours possible in the event of fire.
Fire may cause evolution of:
nitrogen oxides

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapours, aerosols. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Do not empty into drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® OH⁻, Merck Art. No. 101596). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Observe label precautions.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

7.2 Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place.

Store at +15°C to +25°C.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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SECTION 8. Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Eye/face protection

Safety glasses

Hand protection

splash contact:

Glove material:	Viton (R)
Glove thickness:	0,70 mm
Break through time:	> 60 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 890 Vitoject® (splash contact). The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

Flame retardant antistatic protective clothing

Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: Filter AX (EN 371)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not empty into drains.

Risk of explosion.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

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Form	liquid
Colour	colourless
Odour	amine-like
Odour Threshold	No information available.
pH	13 at 700 g/l 20 °C
Melting point	-101 °C
Boiling point/boiling range	31 - 33 °C at 1.013 hPa
Flash point	-37 °C Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	2 %(V)
Upper explosion limit	10,4 %(V)
Vapour pressure	632 hPa at 20 °C
Relative vapor density	No information available.
Relative density	0,69 g/cm ³ at 20 °C
Water solubility	1.000 g/l at 20 °C
Partition coefficient: n-octanol/water	log Pow: 0,26 OECD Test Guideline 107 Bioaccumulation is not expected.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	0,36 mPa.s at 20 °C
Explosive properties	No information available.
Oxidizing properties	No information available.

9.2 Other data

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Ignition temperature	330 °C Method: DIN 51794
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Minimum ignition energy	2,0 mJ
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SECTION 10. Stability and reactivity

10.1 Reactivity

Vapours may form explosive mixture with air.

10.2 Chemical stability

Sensitive to air.

10.3 Possibility of hazardous reactions

Violent reactions possible with:

Strong acids, Oxidizing agents, Halogenated hydrocarbon, anhydrides, Ketones, Nitriles, Alcohols, Aldehydes, Esters, phenols, Mercury

Risk of explosion with:

perchloryl fluoride

Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitosamines!

10.4 Conditions to avoid

Warming.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.5 Incompatible materials

Aluminium, Lead, Copper, Zinc, Tin

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 rat: 550 mg/kg (IUCLID)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity

LC50 rat: 9,8 mg/l; 4 h (IUCLID)

Symptoms: Cough, Shortness of breath, mucosal irritations, Inhalation may lead to the formation of oedemas in the respiratory tract., Possible damages:, Irritation symptoms in the respiratory tract.

Acute dermal toxicity

LD50 rabbit: > 400 mg/kg

OECD Test Guideline 402

absorption

Skin irritation

rabbit

Result: Causes burns.

(IUCLID)

Causes skin irritation.

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Product name Isopropylamine for synthesis

Eye irritation

rabbit

Result: Severe irritations
(RTECS)

Risk of corneal clouding.
Causes serious eye irritation.

Sensitisation

Sensitisation test: guinea pig

Result: negative

Method: OECD Test Guideline 406

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

(National Toxicology Program)

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Based on available data the classification criteria are not met.

11.2 Further information

Systemic effects:

After absorption of large quantities:

narcosis

Damage to:

Kidney

Other information

Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments.

Further data:

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

12.1 Toxicity

Toxicity to fish

LC50 *S.gairdnerii*: 40 mg/l; 96 h (IUCLID)

Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia magna* (Water flea): 47,4 mg/l; 48 h (IUCLID)

Toxicity to algae

IC50 *Desmodesmus subspicatus* (green algae): 4,13 mg/l; 72 h (IUCLID)

Toxicity to bacteria

EC50 *Pseudomonas putida*: 99 mg/l; 17 h (IUCLID)

12.2 Persistence and degradability

Biodegradability

70 - 80 %

OECD Test Guideline 301F

Readily biodegradable.

12.3 Bioaccumulative potential

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Product name Isopropylamine for synthesis

Partition coefficient: n-octanol/water

log Pow: 0,26

OECD Test Guideline 107

Bioaccumulation is not expected.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number	UN 1221
14.2 Proper shipping name	ISOPROPYLAMINE
14.3 Class	3 (8)
14.4 Packing group	I
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	C/E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 1221
14.2 Proper shipping name	ISOPROPYLAMINE
14.3 Class	3 (8)
14.4 Packing group	I
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

Sea transport (IMDG)

14.1 UN number	UN 1221
14.2 Proper shipping name	ISOPROPYLAMINE
14.3 Class	3 (8)
14.4 Packing group	I
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes

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EmS F-E S-C

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Major Accident Hazard 96/82/EC
Legislation Extremely flammable
8
Quantity 1: 10 t
Quantity 2: 50 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

National legislation

Storage class 3

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H224 Extremely flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Full text of R-phrases referred to under sections 2 and 3

R12 Extremely flammable.
R36/37/38 Irritating to eyes, respiratory system and skin.

Training advice

Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.