SAFETY DATA SHEET

Isopropylamine 70%
10360

Version / Revision	2.02	**Revision Date**	13-Jul-2022
Supersedes Version	2.01***	**Issuing date**	13-Jul-2022

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

1.1. Product identifier

Identification of the substance/preparation **Isopropylamine 70%**

CAS-No 75-31-0
EC No. 200-860-9
Registration number (REACh) 01-2119463274-39

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

Identified uses Formulation
Uses advised against None

1.3. Details of the supplier of the safety data sheet

Company/Undertaking Identification
OQ Chemicals GmbH
Rheinpromenade 4A
D-40789 Monheim
Germany

Product Information
Product Stewardship
FAX: +49 (0)208 693 2053
email: sc.psq@oq.com

1.4. Emergency telephone number

Emergency telephone number
+65 3158 1198 (available 24/7)
000800 100 7479 (for domestic shipments only)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

This mixture is classified based on Directive 1272/2008/EC and its amendments (CLP Regulation)

Flammable liquid Category 2, H225
Acute oral toxicity Category 3, H301
Acute dermal toxicity Category 3, H311
Acute inhalation toxicity Category 4, H332
Skin corrosion/irritation Category 1A, H314
Serious eye damage/eye irritation Category 1, H318
Target Organ Systemic Toxicant - Single exposure Category 3, H335

Additional information
For full text of Hazard- and EU Hazard-statements see SECTION 16.

2.2. Label elements

Labelling according to Regulation 1272/2008/EC and its amendments (CLP Regulation).

Hazard pictograms

Signal word **Danger**

Hazard statements
H225: Highly flammable liquid and vapour.
H301: Toxic if swallowed.
H311: Toxic in contact with skin.
H332: Harmful if inhaled.
H314: Causes severe skin burns and eye damage.
H335: May cause respiratory irritation.

Precautionary statements
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P260: Do not breathe gas/mist/vapours.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P321: Specific treatment: IF ON SKIN: Wash off with 3% acetic acid followed by large amounts of plain water for at least 5 min as a final step.
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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/doctor.
P403 + P235: Store in a well ventilated place. Keep cool.

contains Isopropylamine (CAS 75-31-0)

2.3. Other hazards

Components of the product may be absorbed into the body by inhalation, ingestion and through the skin
Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback
Vapours may form explosive mixture with air

PBT and vPvB assessment Not required

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Component	CAS-No	REACh-No	1272/2008/EC	Concentration (%)
Isopropylamine	75-31-0	01-2119463274-39	Flam. Liq. 1; H224 Acute Tox. 3; H301	70 - 72

			Acute Tox. 3; H311 Acute Tox. 3, H331 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	

For full text of Hazard- and EU Hazard-statements see SECTION 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Keep at rest. Aerate with fresh air. Call a physician immediately. Symptoms of poisoning may develop many hours after exposure.

Eyes
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Skin
Wash off with 3% acetic acid followed by large amounts of plain water for at least 5 min as a final step. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

Ingestion
Call a physician immediately. Do not induce vomiting without medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Main symptoms
shortness of breath, convulsions, cough, hypertensive effect, narcosis, unconsciousness, discomfort, nausea.

Special hazard
Stomach perforation, Lung oedema, Pneumonia, Dermatitis.

4.3. Indication of any immediate medical attention and special treatment needed

General advice
Remove contaminated, soaked clothing immediately and dispose of safely. First aider needs to protect himself.

Treat as an alkaline substance (similar to ammonia). If ingested, irrigate the stomach. Treat skin and mucous membranes with antihistamine and corticoids. In case of lung irritation, first treatment with cortisone spray. Symptoms may be delayed. Later control for pneumonia and lung oedema.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
alcohol-resistant foam, dry chemical, carbon dioxide (CO2), water spray

Unsuitable Extinguishing Media
Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Under conditions giving incomplete combustion, hazardous gases produced may consist of:
carbon monoxide (CO)
carbon dioxide (CO2)
nitrogen oxides (NOx)
hydrogen cyanide (hydrocyanic acid)
Combustion gases of organic materials must in principle be graded as inhalation poisons
Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback
Vapours may form explosive mixture with air

5.3. Advice for firefighters

Special protective equipment for firefighters
Fire fighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire-fighting turn out gear.

Precautions for firefighting
Cool containers / tanks with water spray. Water run-off and vapor cloud may be corrosive. Dike and collect water used to fight fire. Keep people away from and upwind of fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: For personal protective equipment see section 8. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.
For emergency responders: Personal protection see section 8.

6.2. Environmental precautions

Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

6.3. Methods and material for containment and cleaning up

Methods for containment
Stop the flow of material, if possible without risk. Dike spilled material, where this is possible.

Methods for cleaning up
Soak up with inert absorbent material. DO NOT use combustible materials such as sawdust. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).

6.4. Reference to other sections

For personal protective equipment see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Do not use compressed air for filling, discharging or handling. Refill and handle product only in closed system. Provide sufficient air exchange and/or exhaust in work rooms.

Hygiene measures
When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Advice on the protection of the environment
See Section 8: Environmental exposure controls.

Incompatible products
acids
Halogenated hydrocarbon
strong oxidizing agents
acid anhydrides
acid chlorides

7.2. Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion
Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material. Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback. Vapours may form explosive mixture with air. The pressure in sealed containers can increase under the influence of heat.

Technical measures/Storage conditions
Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care. Handle under nitrogen, protect from moisture. Keep at temperatures between -18 and 38 °C (0 and 100 °F).

Suitable material
mild steel, stainless steel

Unsuitable material
Aluminium, copper, zinc, Tin, lead, including their alloys

Temperature class
T2

7.3. Specific end use(s)

Formulation

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Exposure limits India

No exposure limits established.

8.2. Exposure controls

Appropriate Engineering controls
General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Personal protective equipment

General industrial hygiene practice
Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures
When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Respiratory protection
Respirator with K- filter. Full mask with above mentioned filter according to producers using requirements or self-contained breathing apparatus. Equipment should conform to EN 136 or EN 140 and EN 143.

Hand protection
Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

Suitable material	butyl-rubber
Evaluation	according to EN 374: level 2
Glove thickness	approx 0,3 mm
Break through time	approx 20 min

Suitable material	nitrile rubber
Evaluation	according to EN 374: level 1
Glove thickness	approx 0,55 mm
Break through time	approx 10 min

Eye protection
Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face.
Equipment should conform to EN 166

Skin and body protection
Impervious clothing. Wear face-shield and protective suit for abnormal processing problems.

Environmental exposure controls
Use product only in closed system. If leakage can not be prevented, the substance needs to be suck off at the emersion point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable, dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	liquid
Colour	colourless
Odour	ammonia-like

Odour threshold	No data available
pH	No data available
Melting point/range	-80 °C
Boiling point/range	44 °C @ 1013 hPa
Flash point	-26 °C
Method	closed cup
Evaporation rate	No data available
Flammability (solid, gas)	Does not apply, the substance is a liquid
Lower explosion limit	2 Vol % (100 % Isopropylamine)
Upper explosion limit	11,5 Vol % (100 % Isopropylamine)

Vapour pressure

Values [hPa]	Values [kPa]	Values [atm]	@ °C	@ °F	Method
367	36,7	0,362	20	68	

Vapour density No data available

Relative density

Values	@ °C	@ °F	Method
0,8339	20	68	DIN 51757

Solubility	miscible, in water
log Pow	-0,5 @ 25 °C (77 °F) OECD 117 (100 % Isopropylamine)
Autoignition temperature	355 °C @ 1016 hPa (100 % Isopropylamine)
Method	DIN 51794
Decomposition temperature	No data available
Viscosity	No data available
Oxidizing properties	Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties
Explosive properties	Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties

9.2. Other information

Molecular weight	59,11
Molecular formula	C3 H9 N

SECTION 10: Stability and Reactivity

10.1. Reactivity

The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Vapours may form explosive mixture with air.

10.4. Conditions to avoid

Avoid contact with heat, sparks, open flame and static discharge. Avoid any source of ignition.

10.5. Incompatible materials

acids, strong oxidizing agents, halogenated hydrocarbon, acid anhydrides, acid chlorides.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed. If heated to thermal decomposition the following decomposition products may occur depending on the conditions. carbon monoxide (CO). nitrogen oxides (NOx). cyanides. nitric acid. nitriles.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure Ingestion, Inhalation, Eye contact, Skin contact

Acute toxicity				
Isopropylamine (75-31-0)				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	< 173 mg/kg	rat, male	OECD 425
Dermal	LD50	> 400 mg/kg	rat, male/female	OECD 402
Inhalative	LC50	8,7 mg/l (4h)	rat, male/female	OECD 403

Isopropylamine, CAS: 75-31-0
Assessment
The available data lead to the classification given in section 2

Irritation and corrosion				
Isopropylamine (75-31-0)				
Target Organ Effects	Species	Result	Method	
Skin	rabbit	corrosive	OECD 404	3 min
Eyes	rabbit	corrosive	OECD 405	24h
Respiratory tract	mouse	RD50: 157 ppm	ASTM 981-84	15 min

Isopropylamine, CAS: 75-31-0
Assessment
The available data lead to the classification given in section 2

Sensitization				
Isopropylamine (75-31-0)				
Target Organ Effects	Species	Evaluation	Method	
Skin	guinea pig	not sensitizing	OECD 406	10 %, aqueous solution

Isopropylamine, CAS: 75-31-0
Assessment
Based on available data, the classification criteria are not met for:
Skin sensitization
For respiratory sensitization, no data are available

Subacute, subchronic and prolonged toxicity
Isopropylamine (75-31-0)

Type	Dose	Species	Method	
Subchronic toxicity	NOAEC: 500 mg/m³ (90 d)	rat, male/female	OECD 413	Inhalation

Isopropylamine, CAS: 75-31-0

Assessment

Based on available data, the classification criteria are not met for:
STOT RE

Carcinogenicity, Mutagenicity, Reproductive toxicity					
Isopropylamine (75-31-0)					
Type	Dose	Species	Evaluation	Method	
Developmental Toxicity	NOAEC: 1000 mg/m³	rat		OECD 414	Teratogenicity Inhalation
Developmental Toxicity	NOAEC: 500 mg/m³	rat		OECD 414	Maternal toxicity Inhalation
Mutagenicity		mouse lymphoma cells	negative (with metabolic activation)	OECD 476 (Mammalian Gene Mutation)	In vitro study
Mutagenicity		mouse lymphoma cells	negative (without metabolic activation)	OECD 476 (Mammalian Gene Mutation)	In vitro study
Mutagenicity		Salmonella typhimurium	negative (with metabolic activation)	OECD 471 (Ames)	In vitro study
Mutagenicity		Salmonella typhimurium	negative (without metabolic activation)	OECD 471 (Ames)	In vitro study
Mutagenicity		human lymphocytes	negative (with metabolic activation)	OECD 473 (Chromosomal Aberration)	In vitro study
Mutagenicity		human lymphocytes	negative (without metabolic activation)	OECD 473 (Chromosomal Aberration)	In vitro study
Reproductive toxicity	NOAEC: 500 mg/m³	rat, parental		OECD 415	Inhalation
Reproductive toxicity	NOAEC: 500 mg/m³	rat, 1. Generation, male/female		OECD 415	Inhalation

Isopropylamine, CAS: 75-31-0

CMR Classification

The available data on CMR properties are summarized in the table above. They do not indicate a classification into categories 1A or 1B

Evaluation

In vitro tests did not show mutagenic effects
Animal testing did not show any effects on fertility
In the absence of specific alerts no cancer testing is required

Isopropylamine, CAS: 75-31-0

Main symptoms

shortness of breath, convulsions, cough, hypertensive effect, narcosis, unconsciousness, discomfort, nausea.

Target Organ Systemic Toxicant - Single exposure

STOT SE

respiratory system
The available data lead to the classification given in section 2
Target Organ Systemic Toxicant - Repeated exposure
Based on available data, the classification criteria are not met for:
STOT RE
Other adverse effects
Components of the product may be absorbed into the body by inhalation, ingestion and through the skin.
Note
Handle in accordance with good industrial hygiene and safety practice. Further details on substance data can be found in the registration dossier under the following link:
http://echa.europa.eu/information-on-chemicals/registered-substances.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity			
Isopropylamine (75-31-0)			
Species	Exposure time	Dose	Method
Daphnia magna (Water flea)	48h	EC50: 47,4 mg/l	79/831/EEC.C2
Desmodesmus subspicatus	72h	EC50: 18,9 mg/l (Growth rate)	DIN 38412, part 9
Oncorhynchus mykiss (rainbow trout)	96h	LC50: 40 mg/l	OECD 203
Activated sludge (domestic)	30 min	EC50: >1000 mg/l (Growth inhibition)	OECD 209

Long term toxicity				
Isopropylamine (75-31-0)				
Type	Species	Dose	Method	
Aquatic toxicity	Desmodesmus subspicatus	NOEC: 1,25 mg/l (3d) Growth inhibition	DIN 38412 / part 9	

12.2. Persistence and degradability

Isopropylamine, CAS: 75-31-0
Biodegradation
70 - 80 % (28 d), activated sludge, aerobic, domestic, OECD 301 F.

Abiotic Degradation		
Isopropylamine (75-31-0)		
Type	Result	Method
Hydrolysis	not expected	
Photolysis	No data available	

12.3. Bioaccumulative potential

Isopropylamine (75-31-0)		
Type	Result	Method
log Pow	-0,5 @ 25 °C (77 °F)	measured, OECD 117

BCF	not expected	

12.4. Mobility in soil

Isopropylamine (75-31-0)		
Type	Result	Method
Surface tension	68,5 mN/m (1 g/l @ 20°C (68°F))	OECD 115
Adsorption/Desorption	Koc: 43,2	OECD 106 read across
Distribution to environmental compartments	no data available	

12.5. Results of PBT and vPvB assessment

Isopropylamine, CAS: 75-31-0
PBT and vPvB assessment
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

12.6. Other adverse effects

Isopropylamine, CAS: 75-31-0
No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product Information
Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.
Hazardous waste according to European Waste Catalogue (EWC)

Uncleaned empty packaging
Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

SECTION 14: Transport information

ICAO-TI / IATA-DGR

14.1. UN number	UN 2734
14.2. UN proper shipping name	Amines, liquid, corrosive, flammable, n.o.s. (Isopropylamine solution)
14.3. Transport hazard class(es)	8
Subsidiary Risk	3
14.4. Packing group	I
14.5. Environmental hazards	no

14.6. Special precautions for user no data available

IMDG

14.1. UN number UN 2734
14.2. UN proper shipping name Amines, liquid, corrosive, flammable, n.o.s. (Isopropylamine solution)
14.3. Transport hazard class(es) 8
Subsidiary Risk 3
14.4. Packing group I
14.5. Environmental hazards no
14.6. Special precautions for user
EmS F-E, S-C
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code not applicable

SECTION 15: Regulatory information

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

Regulation 1272/2008, Annex VI

Isopropylamine, CAS: 75-31-0

Classification	Flam. Liq. 1; H224 Eye Irrit. 2; H319 STOT SE 3; H335 Skin Irrit. 2; H315
Hazard pictograms	GHS02 Flame GHS07 Exclamation mark
Signal word	Danger
Hazard statements	H224, H319, H335, H315

International Inventories

Isopropylamine, CAS: 75-31-0
AICS (AU)
DSL (CA)
IECSC (CN)
EC-No. 2008609 (EU)
ENCS (2)-131 (JP)
ISHL (2)-131 (JP)
KECI KE-29257 (KR)
INSQ (MX)
PICCS (PH)
TSCA (US)
NZIoC (NZ)
TCSI (TW)

National regulatory information India

Hazardous Chemicals, Schedule 2: Threshold Quantities at an Isolated Storage
not listed

Hazardous Chemicals, Schedule 3: Threshold Quantities in an Industrial Installation
not listed

For details and further information please refer to the original regulation.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3
H224: Extremely flammable liquid and vapour.
H225: Highly flammable liquid and vapour.
H301: Toxic if swallowed.
H311: Toxic in contact with skin.
H314: Causes severe skin burns and eye damage.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H319: Causes serious eye irritation.
H331: Toxic if inhaled.
H332: Harmful if inhaled.
H335: May cause respiratory irritation.

Abbreviations
A table of terms and abbreviations can be found under the following link:
http://echa.europa.eu/documents/10162/13632/information_requirements_r20_en.pdf

Training advice
For effective first-aid, special training / education is needed.

Sources of key data used to compile the datasheet
Information contained in this safety data sheet is based on OQ owned data and public sources deemed valid or acceptable. The absence of data elements required by OSHA, ANSI or Annex II, Regulation 1907/2006/EC indicates, that no data meeting these requirements is available.

Further information for the safety data sheet
Changes against the previous version are marked by ***. Observe national and local legal requirements. For more information, other material safety data sheets or technical data sheets please consult the OQ homepage (www.chemicals.oq.com).

Disclaimer
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End of Safety Data Sheet