

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II

Product Name	Isopropyl Alcohol	Version	0
		Date Updated	01/09/2011
Form Number	AZK-Prod-008	Date Printed	27/09/2011
		Regulation Number	EC No 1907/2006

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Name of Substance	Isopropyl Alcohol
Synonyms	2-propanol, propan-2-ol, Isopropanol, Dimethyl carbinol, IPA
Index No	Not available
CAS #	67-63-0
EC #	200-661-7
REACH Registration No	01-2119457558-25-0010
Primary / common uses	Use as solvent.
Manufacturer	State Oil Company of Azerbaijan Republic "Azerikimya" Production Union 86. S. Vurgun Str. Sumgait / AZERBAIJAN, AZ5000
Telephone Number	994 12 521 25 16
Fax	994 18 654 49 38
E-mail of competent person responsible for the SDS	rzaa.rzayev@socar.az
Emergency Telephone Number	994 02 645 11 13

2. HAZARDS IDENTIFICATION

Classification and Labeling according to EU CLP 2008 (1272/2008/EC)

Classification

For physical-chemical properties

Flammable liquids Flam Liquid 2 (H225: Highly flammable liquid and vapor)

For health effects

Eye corrosion/irritation Eye Irrit 2 (H319: Causes serious eye irritation)

Specific target organ toxicity -single exposure STOT Single Exp. 3 (H336: May cause drowsiness or dizziness)

For environmental hazards

Not classified

Labelling

Hazard pictogram GHS02: flame GHS07: exclamation mark



Signal word Danger

Hazard statements
H225: Highly flammable liquid and vapor.
H319: Causes serious eye irritation.
H336: May cause drowsiness or dizziness.

Precautionary statements P210: Keep away from heat/sparks/open flames/ /hot surfaces No smoking

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

P301+P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.

P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Classification and labeling in Annex I of Directive 67/548/EEC and Directive 1999/45/EC

Classification

For physical-chemical properties F; R11 Highly flammable; Highly flammable

For health effects Xi; R36 Irritant; Irritating to eyes.

R67 Vapours may cause drowsiness and dizziness.

For the environment Not classified

Labeling

Indication of danger F - highly flammable



Xi – Irritant



R-phrases R11 highly flammable
R36 irritating to eyes
R67 Vapours may cause drowsiness and dizziness.

S-phrases S2 Keep out of the reach of children.
S7 Keep container tightly closed.
S16 Keep away from sources of ignition - No smoking.
S24/25 Avoid contact with skin and eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33 Take precautionary measures against static discharges.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Substances /Ingredient	Identifier	%	Classification*	
			67/548/EEC	EC No. 1272/2008
Isopropyl Alcohol	RRN: Not available EC#: 200-661-7 CAS#: 67-63-0 Index #: Not available	> 99.8	F; R11, R36, R67	Flam. Liq. 2, H225 Eye Irrit 2, H319 STOT SE 3, H336

*Explanation of R and H - phrases are given under Section 16.

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4. FIRST AID MEASURES

Eye Contact

Flush eyes with running water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get immediate medical attention.

Skin Contact

To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse. Get medical attention if any symptoms develop.

Ingestion

If swallowed, do not induce vomiting. Give the person a glass of water or milk to drink and get immediate medical attention. Never give anything by mouth to an unconscious person.

Inhalation

Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue.

Note to Physicians: Causes central nervous system depression. May cause chemical pneumonitis.

5. FIRE FIGHTING MEASURES

Flash Point Temperature

<12 °C (closed cup)

Auto ignition Temperature

425 °C

Explosion/Flammability Limits

2- 12 % (in air)

Extinguishment Equipment

Alcohol-resistant foam, water spray, fog. Dry chemical, CO₂ (Carbon Dioxide), sand may be used for small fires only. Avoid to discharge extinguishing waters to aquatic environment.

Things must be Avoided

Carbon monoxide may be evolved if incomplete combustion occurs. The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Possible Hazard From Burning and Gasification

Upon decomposition, this product emits carbon monoxide, carbon dioxide, and/or low molecular weight hydrocarbons.

Special Equipment

Fire fighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling any combustion products.

6. ACCIDENTAL RELEASE MEASURES

Personal Protection

Immediately remove all contaminated clothing. Avoid contact with spilled or released material. Eliminate ignition sources. Spill or leak area should be isolated immediately for 25 to 50 meters (80 to 160 feet) in all directions. Individuals without appropriate protective equipment should be excluded from area of spill until cleanup has been completed. Wear appropriate protective equipment and clothing during clean-up.

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Environmental Protection

Keep upwind and out of low areas. Stop discharge if safe to do so. Contain discharge by booming on water or diking on ground. Spills on water will volatilize rapidly, making containment or recovery difficult. Take precautionary measures against static discharge, ground all approved equipment used in area.

Cleaning Methods

Remove liquid material with non-sparking approved pumps, skimmers or vacuum equipment. Absorb/adsorb residual materials and clean up with non-sparking tools. Prevent entry into sewers, drains, underground or confined spaces, water intakes and waterways. Contaminated areas may require soil remediation.

7. HANDLING AND STORAGE

Handling

Handle in fully grounded, properly designed, and approved equipment systems that are suitable for flammable liquids. No smoking or open flames permitted in storage, use, or handling areas. Only use in well ventilated areas, vapor may form an explosive mixture with air. Dissipate static electricity during transfer by grounding and bonding containers and equipment. Collect and flare vents. Take special precautions when cold cutting or breaking into lines, or when cleaning and disposing of empty containers.

Storage

Storage area should be clearly identified, well illuminated, clear of obstruction and accessible only to trained and authorized personnel. Store in grounded, properly designed approved vessels, and away from incompatible materials. Must be stored in well ventilated areas. Use away from heat, sparks, open flame, or any other ignition source. Keep absorbents for leaks and spills readily available. Storage area should be equipped with appropriate extinguishing capability (e.g. sprinkler system, portable fire extinguishers, flammable gas detectors). Equip storage tank vents with a flame arrestor and inspect vents during winter conditions for vapor ice build-up. Storage tanks should be above ground over a sealed and diked area that holds entire contents.

Storage Temperature

Storage and Transport Temperatures are ambient conditions.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Follow all applicable exposure limits. Ensure that eyewash stations and safety showers are proximal to the workstation location. Use non-sparking, grounded ventilation systems separate from other exhaust systems. Provide local and general exhaust ventilation to effectively remove and prevent build-up of any vapors or mists generated from the handling of this product. Do not eat, drink or smoke in areas where this material is handled.

Exposure Limits	ACGIH TLV TWA/STEL	NIOSH REL TWA/STEL	OSHA PEL TWA
Isopropyl Alcohol	200 ppm / 400 ppm	400 ppm / 500 ppm	400 ppm

Respiratory System

NIOSH approved organic vapor cartridge respirators or SCBA should be used in poorly ventilated areas.

Hands Protection

Wear chemically resistant gloves. Wash hands in case of any contact with the material.

Eyes Protection

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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Skin Protection

Fire resistant or natural fiber clothing is recommended. Synthetic clothing can generate static electricity and is not recommended where flammable vapors release may occur.

Environmental exposure controls

Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapor.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid
Color	Clear
Odor	Characteristic.
pH	Not applicable.
Boiling Point	82 °C – 83 °C
Melting Point/Freezing Point	-88 °C
Flashing Point	12 °C (IP170)
Explosion/Flammability Limits in air	2 – 12 % (V)
Auto-ignition temperature	425 °C (ASTM E-659)
Vapor Pressure	6.02 kPa (33 mmHg)
Specific Gravity	0.78 - 0.79 at 20°C
Density	785 - 786 kg/m ³ at 20 °C (ASTM D-4052)
Water Solubility	Completely miscible.
Solubility in other solvents	Readily soluble in many organic solvents.
n-octanol/water partition coefficient (log P _{ow})	0.05
Dynamic viscosity	2.43 mPa.s at 20 °C
Vapor density (air=1)	2 at 20 °C
Electrical conductivity	6 µS/m at 20 °C (ASTM D-4308)
Evaporation rate (nBuAc=1)	1.5 (ASTM D 3539, nBuAc=1) 11 (DIN 53170, di-ethyl ether=1)
Surface tension	22.7 mN/m at 20 °C
Molecular weight	60.1 g/mol
Hygroscopicity	Completely miscible.
Decomposition temperature	Not applicable
Other Information	
Coefficient of expansion	0.0009 / °C
Dielectric constant	18.6 at 20 °C
Heat of vaporization	665 J/g
Refractive index	1.377 at 20 °C (ASTM D-1218)
Reaction with water	Forms azeotrope with water boiling at 80.3 °C containing 87.4% IPA
Specific heat	3 kJ/kg °C at 20 °C
Saturated Vapor conc. (in air)	102 at 20 °C (estimated value(s))

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Thermal conductivity 0.137 W/m °C at 20 °C

Volatile organic carbon content 59.9 % (EC/1999/13)

10. STABILITY AND REACTIVITY

Stability

Stable under normal storage conditions.

Conditions to Avoid

Avoid Heat, flame, spark, ignition sources.

Materials to Avoid

Reactive with strong oxidizing agents, acids and halogens. May attack and degrade some types of plastics, rubbers and coatings.

Hazardous Decomposition Products

Upon decomposition, this product emits carbon monoxide, carbon dioxide, and/or low molecular weight hydrocarbons.

Possibility of Unstable Product Formation With Decomposition

Some components of the product become unstable at elevated temperatures and pressures.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Toxicity	Inhalation LC 50	Dermal LD 50	Oral LD 50
Isopropyl Alcohol	N/A	>5000 mg/kg (rabbit)	>5000 mg/kg (rat)

Skin Irritation

Not irritating to skin

Eye Irritation

Irritating to eyes

Respiratory Irritation

Data not available

Sensitization

Not a skin sensitizer.

Aspiration hazard

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

Mutagenicity

Not mutagenic.

Carcinogenicity

Not a carcinogen.

Reproductive and Developmental Toxicity

Does not impair fertility. Not a developmental toxicant.

Specific target organ toxicity - single exposure

Vapours may cause drowsiness and dizziness.

Specific target organ toxicity – repeated exposure

Kidney: caused kidney effects in male rats which are not considered relevant to humans.

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Additional Information

Exposure may enhance the toxicity of other materials. High concentrations of inhalation may cause central nervous system depression resulting in headaches, dizziness and nausea.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic toxicity

Aquatic toxicity	Conclusion / Remarks
Acute Toxicity	
Fish	Practically non toxic: LL/EL/IL50 > 100 mg/l
Aquatic Invertebrates	Practically non toxic: LL/EL/IL50 > 100 mg/l
Algae	Practically non toxic: LL/EL/IL50 > 100 mg/l
Microorganisms	Practically non toxic: LL/EL/IL50 > 100 mg/l
Chronic Toxicity	
Fish	Data not available.
Aquatic Invertebrates	Data not available.

Persistence and degradability

Oxidizes rapidly by photo-chemical reactions in air. Readily biodegradable.

Bioaccumulative Potential

Not expected to bioaccumulate significantly.

Mobility

Dissolves in water. If product enters soil, one or more constituents will be mobile and may contaminate groundwater.

Result of the PBT assessment

Does not meet criteria.

13. DISPOSAL CONSIDERATIONS

Waste Product

Isolate, contain, and attempt to recover. Absorb with DRY earth, sand or other non-combustible material and areas may require soil remediation. Prevent entry into sewers, drains, underground or confined spaces, water intakes and waterways. Containers must be drained and vent in a safe place away from ignition sources. Wastes can be incinerated in accordance with local and national regulation.

14. TRANSPORTATION INFORMATION

ADR/RID Class	
UN Number	UN1219
UN proper shipping name	ISOPROPANOL
Transport Hazard Class	3
Packing group	II
Classification code	F1
Hazard identification number	33
Danger label (primary risk)	3
Environmentally hazardous	No

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IMDG

UN Number	UN1219
UN proper shipping name	ISOPROPANOL
Transport Hazard Class	3
Packing group	II
Classification code	-
Hazard identification number	-
Danger label (primary risk)	-
Environmentally hazardous	No

IATA

UN Number	UN1219
UN proper shipping name	ISOPROPANOL
Transport Hazard Class	3
Packing group	II
Classification code	-
Hazard identification number	-
Danger label (primary risk)	-
Environmentally hazardous	No

SEA (Annex II of MARPOL 73/78 and the IBC code)

Pollution Category	Z
Ship Type	3
Product Name	Isopropyl alcohol
Special Precaution	Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

Additional Information: This product may be transported under nitrogen blanketing. Nitrogen is an odorless and invisible gas. Exposure to nitrogen may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined space entry.

15. REGULATORY INFORMATION

Dangerous as defined by the EU Dangerous Substances/Preparations Directives:

Classification and labeling according to EU CLP 2008 (1272/2008/EC)

Classification Please see Section 2

Labeling

Signal word Danger
Hazard pictogram GHS02 GHS07



Flame



Exclamation mark

Classification and labeling in Annex I of Directive 67/548/EEC and Directive 1999/45/EC

Classification Please see Section 2

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Indication of danger

F - highly flammable



Xi – Irritant



16. OTHER INFORMATION

R-phrases

R11 highly flammable
 R36 irritating to eyes
 R67 Vapours may cause drowsiness and dizziness.

S-phrases

S2 Keep out of the reach of children.
 S7 Keep container tightly closed.
 S16 Keep away from sources of ignition - No smoking.
 S24/25 Avoid contact with skin and eyes.
 S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S33 Take precautionary measures against static discharges.

CLP Hazard statements

H225 Highly flammable liquid and vapor.
 H319 Causes serious eye irritation.
 H336 May cause drowsiness or dizziness.

OSHA Occupational Safety Health Administration.
 PEL Permissible Exposure Level.
 STEL Short Time Exposure Limit.
 ACGIH American Conference of Governmental Industrial Hygienists, Inc.
 TWA Time Weighted Average.
 ADR Transport of Dangerous Goods on Road.
 IMO International Maritime Organization.

The information's given here depends on our present knowledge. Related National and International Legislation and Agreements should be considered by customer with their responsibility.