# Material Safety Data Sheet

**ISO BUTANOL FOR SYNTHESIS 98.5%** (RXSOL-60-6604-747)

## 1. Product and Company Identifaction

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|---|---|
| Product Name | RXSOL-60-6604-747 |
| Product Type | iso-BUTANOL FOR SYNTHESIS 98.5% |
| Revised date | |

Company Details:

RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
VASHI ,NEW BOMBAY 400703 INDIA

Stock Point : Mumbai, Kandla, Chennai, Visakhapatnam, Kolkata, Fujairah, Muscat Barka

| | |
|---|---|
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## 2. Composition / informationon ingredients

Substance / Preparation : Isobutanol
CAS No :78-83-1
Substance.
Contains no other components or impurities which will influence the classification of the product.

## 3. Hazards Identification

3.1. Classification of the substance or mixture
Classification EC 67/548 or EC 1999/45
Classification : R10
R67
Xi; R37/38-41
Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)
Health hazards : Specific Target Organ Toxicity - Single exposure - Respiratory tract irritation - Category 3 - Warning (CLP : STOT SE 3) H335
Specific Target Organ Toxicity - Single exposure - Narcotic effects - Category 3 - Warning (CLP : STOT SE 3) H336
Serious eye damage - Category 1 - Danger (CLP : Eye Dam. 1) H318
Skin irritation - Category 2 - Warning (CLP : Skin Corr. 2) H315
Physical hazards : Flammable liquids - Category 3 - Warning (CLP : Flam. Liq. 3) H226
3.2. Label elements
Labelling EC 67/548 or EC 1999/45
Symbol(s) : Xi : Irritant
Highly flammable
R Phrase(s) : R10 : Flammable.
R37/38 : Irritating to respiratory system and skin.
R41 : Risk of serious damage to eyes.
R67 : Vapours may cause drowsiness and dizziness.
S Phrase(s) : S2 : Keep out of the reach of children.
S7/9 : Keep container tightly closed and in well-ventilated place.
S13 : Keep away from food, drink and animal feedingstuffs.
S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39 : Wear suitable gloves and eye/face protection.
S46 : If swallowed seek medical advice immediately and show this container or label.
Labelling Regulation EC 1272/2008 (CLP)
Hazard pictograms
Signal words : Danger
Hazard statements : H226 : Flammable liquid and vapour.

H318 : Causes serious eye damage.
H315 : Causes skin irritation.
H335 : May cause respiratory irritation.
H336 : May cause drowsiness or dizziness.
Precautionary statements
• General : P102: Keep out of reach of children
. P103: Read label before use.
P101: If medical advice is needed, have product container or label at hand.
• Prevention : P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical, ventilating, lighting, …, equipment.
P210: Keep away from heat, sparks, open flames or hot surfaces. – No smoking.
P280: Wear protective gloves, protective clothing, eye protection, face protection.
P271: Use only outdoors or in a well-ventilated area.
P261: Avoid breathing dust, fume, gas, mist, vapours, spray.
P233: Keep container tightly closed.
P264: Wash thoroughly after handling
. • Response : P302+P352: IF ON SKIN : Wash with plenty of soap and water.
P332+P313: If skin irritation occurs : Get medical advice.
P305+P351+P338: IF IN EYES : Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340: IF INHALED : Remove to fresh air and keep at rest in a position
comfortable for breathing.
P303+P361+P353: IF ON SKIN (or hair) : Remove immediately all contaminated
clothing. Rinse skin with water/shower.
P363: Wash contaminated clothing before reuse.
P370+P378: In case of fire: Use for extinction.
• Storage : P403+P233: Store in well-ventilated place. Keep container tightly closed.
P403+P235: Store in well-ventilated place. Keep cool.
P405: Store locked up.
• Disposal considerations : P501: Dispose of this material and its container to hazardous
or special waste collection point, in accordance with local, regional, national and/or
international regulation.
3.3. Other hazards
Other hazards : The substance does not fulfil the criteria to be identified as PBT
substance or vPvB substance according to Annex XIII of Regulation REACH

## 4. First Aid Measures

4.1. Description of first aid measures
Inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor if you feel unwell.
Skin contact : Specific treatment (see on this label). Get medical advice. If skin irritation
occurs : Wash contaminated clothing before reuse. Remove/Take off immediately all
contaminated clothing. Wash with plenty of soap and water
. Eye contact : Immediately call a POISON CENTER or doctor. Remove contact lenses, if
present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes.
Ingestion : Obtain emergency medical attention. Rinse mouth. Do NOT induce vomiting.
4.2. Most important symptoms and effects, both acute and delayed
Symptoms relating to use : Causes serious eye damage. Causes skin irritation. May
cause respiratory irritation. May cause drowsiness or dizziness.
4.3. Indication of any immediate medical attention and special treatment needed
General information : Never give anything by mouth to an unconscious person. If you feel
unwell, seek medical advice (show the label where possible).

## 5. Fire-fighting Measures

5.1. Extinguishing media
Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.
Surrounding fires : Use water spray or fog for cooling exposed containers.
5.2. Special hazards arising from the substance or mixture
Hazardous combustion products : Under fire conditions, hazardous fumes will be
present.
5.3. Advice for fire-fighters
Protection against fire : Do not enter fire area without proper protective equipment,
including respiratory protection. Special procedures : Exercise caution when fighting any chemical fire. Avoid (reject)
fire-fighting water to enter environment.

## 6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
For emergency responders : Equip cleanup crew with proper protection.
Ventilate area. Avoid breathing dust, fume, gas, mist, vapours, spray.
Technical measures : Use special care to avoid static electric charges.
Special precautions : Remove ignition sources. No naked lights. No smoking
For non-emergency personnel : Evacuate unnecessary personnel.
6.2. Environmental precautions
Environmental precautions : Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters
. 6.3. Methods and material for containment and cleaning up
Clean up methods : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
6.4. Reference to other sections
See section 8. Exposure controls/personal protection

## 7. Handling and Storage

7.1. Precautions for safe handling
Handling : Handle empty containers with care because residual vapours are flammable. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area.
Wash thoroughly after handling. Take precautionary measures against static discharge.
Technical protective measures : Provide good ventilation in process area to prevent formation of vapour. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical, ventilating, lighting, …, equipment. Use only nonsparking tools
Special precautions : No naked lights. No smoking. Avoid breathing dust, fume, gas, mist, vapours, spray.
7.2. Conditions for safe storage, including any incompatibilities
Storage : Keep only in the original container in a cool, well ventilated place. Keep in fireproof place. Ground/bond container and receiving equipment. Keep container tightly closed.
Storage - away from : Strong bases. Strong acids. Sources of ignition. Direct sunlight. Heat sources.
7.3. Specific end use(s)
Specific end use(s) : None

## 8. Exposure controls and personal protection

8.1. Exposure controls
Personal protection : Avoid all unnecessary exposure.
• Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.
• Hand protection : Wear protective gloves.
• Skin protection : Wear suitable protective clothing
. • Eye protection : Chemical goggles or safety glasses.
• Others : When using, do not eat, drink or smoke.
8.2. Control parameters
Occupational Exposure Limits : No data available.
VLA-ED [ppm] : 50
VLA-ED [mg/m³] : 154

## 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state at 20 °C : Liquid
. Odour : Sweet-musty odor
Odour threshold : 40 ppm
pH value : No data available.
Melting point [°C] : -108
Decomposition point [°C] : N/A
Critical temperature [°C] : 274.6°C
Auto-ignition temperature [°C] : 430
Flammability (solid, gas) : Flammable liquid and vapour.
Flammable.
Flash point [°C] : 27 Boiling point [°C] : 108
Initial boiling point [°C] : N/A
Final boiling point [°C] : N/A
Evaporation rate : 0,8
Vapour pressure [20°C] : 1.2 kPa (@ 20°C)
Vapour pressure mm/Hg : 9.1 (20° C)

Vapour density : 2,56
Density [g/cm3] : 0.8
Relative density, gas (air=1) : 2.6
Relative density, liquid (water=1) : N/A
Solubility in water [% weight] : 9.5
Solubility in water : N/A
Log Pow octanol / water at 20°C : No data available.
Solubility : N/A
Viscosity at 40°C [mm2/s] : N/A
9.2. Other information
Explosive properties : N/A
Explosion limits - upper [%] : 10.9
Explosion limits - lower [%] : 1.2
Oxidising properties : No data available

## 10. Stability and reactivity

10.1. Reactivity
Reactivity : Not established.
10.2. Chemical stability
Chemical stability : Stable under recommended storage conditions.
10.3. Possibility of hazardous reactions
Hazardous reactions : Not established.
10.4. Conditions to avoid
Conditions to avoid : Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.
10.5. Incompatible materials
Materials to avoid : Strong acids. Strong bases.
10.6. Hazardous decomposition products
Hazardous decomposition products : Fumes. Carbon monoxide. Carbon dioxide. May release flammable gases.

## 11. Toxicological information

11.1. Information on toxicological effects
Acute toxicity
• Inhalation : Based on available data, the classification criteria are not met.
• Dermal : Based on available data, the classification criteria are not met.
• Ingestion : Based on available data, the classification criteria are not met.
Corrosion : Based on available data, the classification criteria are not met
. Irritation : Causes serious eye irritation. Causes skin irritation. May cause respiratory irritation.
Sensitization : Based on available data, the classification criteria are not met.
Mutagenicity : Based on available data, the classification criteria are not met.
Carcinogenicity : Based on available data, the classification criteria are not met.
Toxic for reproduction : Based on available data, the classification criteria are not met
STOT-single exposure : Based on available data, the classification criteria are not met.
STOT-repeated exposure : Based on available data, the classification criteria are not met.
Aspiration hazard : Based on available data, the classification criteria are not met.

## 12. Ecological information

12.1. Toxicity
Toxicity information : Not established.
12.2. Persistence - degradability
Persistence - degradability : Biodegradable.
12.3. Bioaccumulative potential
Bioaccumulative potential : Not established.
12.4. Mobility in soil
Mobility in soil : Not established.
Log Pow octanol / water at 20°C : 0.7
12.5. Results of PBT and vPvB assessment
Results of PBT and vPvB assessment : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.
12.6. Other adverse effects
Environmental precautions : Avoid release to the environment.

## 13. Disposal considerations

13.1. Waste treatment methods
General : Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations. Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Special precautions : Handle empty containers with care because residual vapours are flammable.

## 14. Transport information

14.1. Land transport (ADR-RID)
Proper shipping name : ISOBUTANOL (ISOBUTYL ALCOHOL)
UN N° : 1212
H.I. nr : 30
ADR - Class : 3
Labelling - Transport : 3 : Flammable liquid
. ADR - Classification code : F1
ADR - Group : III
ADR - Packing instructions : P001 R001 LP001
ADR - Limited Quantity : 5 L
ADR - Tunnel code : D/E : Bulk or tank carriage: Passage forbidden through tunnels of category D and E. Other carriage: Passage forbidden through tunnels of category E.
14.2. Sea transport (IMDG) [English only]
Proper shipping name : ISOBUTANOL (ISOBUTYL ALCOHOL)
UN N° : 1212
IMO-IMDG - Class or division : 3 : Flammable liquid.
IMO-IMDG - Packing group : III
IMO- IMDG - Packing instructions : P001 LP01
IMO-IMDG - Limited quantities : 5 L
IMO-IMDG - Marine pollution : No
EMS-Nr : F-E S-D
14.3. Air transport (ICAO-IATA) [English only]
Proper shipping name : ISOBUTANOL (ISOBUTYL ALCOHOL)
UN N° : 1212
IATA - Class or division : 3 : Flammable liquid.
IATA - Packing group : III
IATA - Passenger and Cargo Aircraft : ALLOWED
- Passenger and Cargo - Packing : 355
instruction
- Passenger and Cargo - Maximum : 60 L
Quantity/Packing
IATA - Cargo only : ALLOWED
- Cargo only - Packing instruction : 366
- Cargo only - Maximum Quantity/ : 220 L
Packing
IATA - Limited Quantites : 10 L
ERG-Nr : 3L

## 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Safety, health and environmental : Ensure all national/local regulations are observed.
regulations/legislation specific for the substance or mixture
REACH Restrictions - Annex XVII : The components of this product are not subject to restrictions.
REACH Authorisation - Annex XIV : The components of this product are not subject to authorization.
15.2. Chemical Safety Assessment
Chemical Safety Assessment : It has not been carried out

## 16. Other information

Abbreviations and acronyms : PBT: persistent, bioaccumulative and toxic.
vPvB: very persistent and very bioaccumulative
Sources of key data used : REGULATION (EC) No 1272/2008 OF THE EUROPEAN

PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
Further information : None.
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