# MATERIAL SAFETY DATA SHEET

**PRODUCT: ISOBUTANOL** **Date of Issue: May 2013**

**Classified as hazardous**

## 1. IDENTIFICATION OF THE MATERIAL AND THE SUPPLIER

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|---|---|
| **Product Name:** | Iso Butyl Alcohol (Also known as Iso Butanol) |
| **Chemical Family:** | Iso Butanol/2 –Methyl-1-Propanol |
| **Product Formal Name:** | Iso Butyl Alcohol |
| **Product Trivial Name:** | IBA |
| **Company:** | Glendale Packaging Pty Ltd |
| **Address:** | Unit 1/75 Newton Road, Wetherill Park NSW 2164 |
| **Telephone Number:** | (02) 9756 2315 |
| **Emergency Telephone:** | (02) 9756 2315 |

## 2. HAZARDOUS IDENTIFICATION

**Hazard Classification:** Hazardous substance according to the criteria of NOHSC. Dangerous goods classified according to the Australian Dangerous Goods Code.

**Risk Phase(s):**
R11 – Highly flammable
R20 – Harmful by inhalation

**Safety Phase(s):**
S2 – Keep out of reach of children
S16 – Keep away from sources of ignition
S24/25 – Avoid contact with skin and eyes
S36/37 – Wear suitable protective clothing and gloves

**Main Hazards:**
Harmful by inhalation, in contact with skin and if swallowed. Irritating to respiratory system

**Eyes:**
Liquid or vapour will cause conjunctival irritation and possibly corneal damage.

**Skin:**
Repeated or prolonged contact may produce defatting of the skin leading to irritation and dermatitis. Vapour may be absorbed through the skin in toxicologically significant amounts.

**Ingestion:**
A large dose may have the following effects: gastrointestinal irritation. Central nervous system depression, liver damage and kidney damage.

**Inhalation:**
Exposure to vapour may have the following effects: irritation of nose, throat and respiratory tract, headache. Exposure to vapour at high concentrations may have the following effects: severe irritation of nose, throat and respiratory tract, loss of consciousness, kidney damage and liver damage.

**SUSDP Schedule:** None allocated

## 4. FIRST AID MEASURES

**Eyes:**
Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention urgently.

**Skin:**
Immediately flood the skin with large quantities of water, preferably under a shower. Remove contaminated clothing as washing proceeds; continue washing for at least 10 minutes. Obtain medical attention urgently. Contaminated clothing should be washed or dry cleaned before re-use.

**Ingestion:**
Do not induce vomiting. Keep warm and at rest. Obtain medical attention urgently.

**Inhalation:**
Remove from exposure. Keep warm and at rest. If breathing stops or shows signs of failing, give artificial respiration. If heartbeat absent, give external cardiac compression. Obtain medical attention.

## 5. FIRE FIGHTING MEASURES

**Suitable Extinguishing Media:**
Use alcohol resistant foam. Use dry chemical or carbon dioxide. Keep containers and surroundings cool with water spray.

**Unsuitable Extinguishing Media:**
No data

**Special Protective Equipment for Fire Fighters:**
Wear full protective clothing and self-contained breathing apparatus.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:**
Wear appropriate protective clothing. Wear respiratory protection. Eliminate all sources of ignition. Vapours can accumulate in low areas.

**Environment Precautions:**
Try to prevent the material from entering drains or watercourses. Advise authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

**Spillages:**
Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal.

## 7. HANDLING AND STORAGE

**Handling:**
Use in well-ventilated area. Avoid inhaling vapour. Avoid contact with eyes, skin and clothing. Keep containers tightly closed when not in use.

**Storage:**
Storage area should be cool and dry. Suitable storage materials are mild steel, polypropylene. Where trace iron contamination or slight discoloration is critical, store in coated mild steel, stainless steel. Do not store in galvanized mild steel, copper and its alloys, aluminium and its alloys. For gaskets and seals use butyl rubber.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Control Measures:**
Exposure to this material may be controlled in a number of ways. The measures appropriately for a particular worksite depend on how the material is used and on the potential for exposure. Engineering methods to prevent or control exposure are preferred. Methods including process or personnel enclosure, mechanical ventilation (dilution and local exhaust) and control of process conditions. If engineering controls and work practices are not effective in preventing or controlling exposure, then suitable personal protective equipment, which is known to perform satisfactorily, should be used.

**Respiratory Protection:**
Respiratory protection if there is a risk of exposure to high vapour concentrations.

**Hand Protection:**
PVC or rubber gloves.

**Eye Protection:**
Chemical goggles or face shield.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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|---|---|
| **Physical State:** | Liquid |
| **Colour:** | Colourless, clear |
| **Odour:** | Mild |
| **Boiling Range/Point:** | 107.9°C |
| **Flash point (PMCC):** | 28° |
| **Explosion Limits:** | Lower limit 1.7% - Upper Limit 10.6% |
| **Solubility in Water (kg/m³):** | Slightly |
| **Vapour Pressure (kpa):** | 9.6mmhg @ 20°C |
| **Gravity (20/20°C):** | 0.799-0.809 |

## 10. STABILITY AND REACTIVITY

**Chemical Stability:**
Stable under normal use conditions.

**Conditions to Avoid:**
High temperatures.

**Materials to Avoid:**
Strong oxidizing agents, strong caustics

**Hazardous Decomposition Products:**
Combustion will generate oxides of carbon.

## 11. TOXICOLOGICAL INFORMATION:

**Acute Toxicity:**
Oral LD50 (rat) 560mg/kg. Oral LD50 (mouse) 1200mg/kg. Oral LD50 (rabbit) 320mg/kg. Inhalation LC50 (rat) 2400mg/litre/4h. Inhalation LC50 (mouse) 3360mg/litre/4h. Material may be harmful by skin absorption. Dermal LD50 (rabbit) 100mg/kg.

**Irritancy – Eyes:**
The degree of irritation was insufficient to warrant labeling as a skin irritant.

**Sub-acute/Sub-chronic Toxicity:**
Results of repeated inhalation or dermal exposure carried out on a range of laboratory animal species have shown that Iso Butyl Alcohol does not damage the bone marrow or testes. The major effect of this solvent in experimental animals is damage to the circulation red blood

cells (to produce haemolysis): kidney damage and increased liver weight have also been reported at higher exposure levels. In rats the lowest atmospheric exposure level at which red blood cell fragility has been detected is 62ppm. More recent studies have shown minor transient effects on the red blood cells of rats exposed repeatedly to 77ppm. No effects were found at lower exposure levels. In a study of repeated skin contact in rabbits over the same period, no effects were found in animals treated topically with doses of up to 115mg/kg/day. A number of studies have shown that rat blood cells are particularly susceptible to the haemolytic effects os Iso Butyl Alcohol and it is therefore unlikely that effects seen in rats will occur in humans at similar exposure levels. No evidence of increased red blood cell fragility was found in humans exposed to atmospheric concentrations up to 200ppm. Studies have shown that this product readily penetrates skin and that skin contact can result in significant absorption and systemic toxicity.

**Genotoxicity:**
The product has been tested in a number of bacterial and mammalian systems. No significant mutagenic response was observed and the carcinogenic potential of the material is therefore considered to be low.

**Reproductive/Developmental Toxicity:**
Studies on pregnant animals have indicated that this solvent is not teratogenic (did not cause malformations in the offspring). Studies in laboratory animals have shown no effects on fertility in the following species: mice.

## 12. ECOLOGICAL INFORMATION

**Mobility:**
The product is in volatile and water-soluble and will partition to aqueous phase. The product should not partition to organic matter in soils/sediments.

**Persistence/degradability:**
This product is readily biodegradable. BOD20=66% OF THOD (MITI TEST)

**Bioaccumulation:**
Product is not expected to bioaccumulate. Predicted bio-concentration factor = 4.

## 13. DISPOSAL CONSIDERATIONS

**Product Disposal:**
Incineration. Dispose of in accordance with all applicable local and national regulations. If correctly incinerated this material will decompose to carbon dioxide and water only.

**Container Disposal:**
Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near to the container. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. After cleaning, all existing labels should be removed. Do not incinerate closed containers.

## 14. TRANSPORT INFORMATION

| | |
|---|---|
| **U.N. Number:** | 1212 |
| **Proper Shipping Name:** | Iso Butanol |
| **DG Class:** | 3 |
| **Packing Group:** | ll |
| **Marine Pollutant:** | No |

## 15. OTHER INFORMATION

References: (1) National Code of Practice for the preparation of Material Safety Data Sheets 2nd Edition [NOHCS:2011(2003)], (2) Material Safety Data Sheet for Iso Butanol issued by Univar Australia Pty Ltd dated August 2008.

**Contact Point:** Director **Telephone:** (02) 9756 2315



**END OF MSDS**