

SAFETY DATA SHEET

SDS No.1021-15104

Date

November 6, 2017

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1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : iso-Propanol
NAME OF SUPPLIER : GL Sciences Inc.
ADDRESS : 22-1 Nishishinjuku 6-chome Shinjuku-ku Tokyo 163-1130, Japan
CHARGE SECTION : International Sales Section
TELEPHONE No. : +81-3-5323-6620
FACSIMILE No. : +81-3-5323-6621
PRODUCT No. : 1021-15104
SDS No. : 1021-15104
Research use only.

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Flammable liquid : Category 2
Serious eye damage/eye irritation : Category 2
Reproductive toxicity : Category 2
Specific target organ toxicity (Single exposure) : Category 1(central nervous system, systemic toxicity)
Category 3(respiratory irritation)
Specific target organ toxicity (Repeated exposure) : Category 1(blood system)
Category 2(respiratory tract, liver, spleen)

HAZARD SYMBOL :



SIGNAL WORD : Danger

HAZARD STATEMENTS :

H225 Highly flammable liquid and vapour
H319 Cause serious eye irritation
H361 Suspected of damaging fertility or the unborn child
H370 Cause damage to organs<central nervous system, systemic toxicity>
H335 May cause respiratory irritation
H372 Cause damage to organs through prolonged or repeated exposure<blood>
H373 May cause damage to organs through prolonged or repeated exposure<respiratory tract, liver, spleen>

PRECAUTIONARY STATEMENTS :

P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. –No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P260 Do not breathe fume/gas/mist/vapours.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P303+P361+ P353 IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370+P378 In case of fire: Use appropriate media such as chemical powder or carbon dioxide to extinguish.

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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. |
| P337+P313 | If eye irritation persists: Get medical attention. |
| P308+P313 | IF exposed or concerned: Get medical advice/attention. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P314 | Get medical attention if you feel unwell. |
| P403+ P233+P235 | Store in a well-ventilated place. Keep container tightly closed. Keep cool. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with all applicable regulations. |

3. COMPOSITION/INFORMATION ON INGREDIENTS

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| CHEMICAL IDENTITY | : iso-Propanol |
| SYNONYMS | : iso-Propyl alcohol, Propane-2-ol, 2-Propanol |
| CONTENT | : > 99 % |
| CHEMICAL FORMULA | : (CH ₃) ₂ CHOH |
| MOLECULAR WEIGHT | : 60.1 |
| CAS No. | : 67-63-0 |
| TSCA INVENTORY | : Listed |
| EINECS No. | : 200-661-7 |
| EC INDEX No. | : 603-117-00-0 |

4. FIRST AID MEASURES

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| GENERAL ADVICE | : Consult a physician. Show this safety data sheet to the doctor in attendance. |
| INHALATION | : Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician. |
| SKIN CONTACT | : Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. Consult a physician immediately. |
| EYE CONTACT | : Flush eyes well with flooding large amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If possible, remove any contact lenses. Consult a physician immediately. |
| INGESTION | : Rinse mouth, give plenty of water to dilute the substance. Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician immediately. |
| MOST IMPORTANT SYMPTOMS AND EFFECTS | : High concentration inhalation induce to irritating eyes, nose and throat. May induce drowsiness, headache and poor coordination. May induce dry skin, chapped skin and dermatitis by long term inhalation. |

5. FIRE FIGHTING MEASURES

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| EXTINGUISHING MEDIA | : Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| FIRE & EXPLOSION HAZARDS | : Toxic, irritating, dust/fume/smoke may be emitted. Carbon monoxide may be foamed. |
| SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS | : Firemen should wear normal protective equipment(full bunker gear) and positive-pressure self-contained breathing apparatus. |

6. ACCIDENTAL RELEASE MEASURES

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| PERSONAL PRECAUTIONS | : Remove ignition sources and ventilate the area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid raising dust and avoid contact with skin and eyes. |
| ENVIRONMENTAL PRECAUTIONS | : Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. |
| METHODS FOR CLEAN UP | : Do not touch spilled material without suitable protection. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. |

7. HANDLING AND STORAGE

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| HANDLING | : Keep away from ignition sources and ventilate the area – No smoking. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with eyes, skin, and clothing. Avoid inhalation of vapour or mist. Avoid prolonged or repeated exposure. Handle this product with suitable protection. Wear protections when cutting ample and treating this product. |
| STORAGE | : Store away from sunlight, heat and all ignition sources in well-ventilated dry place. Keep container tightly closed. Keep cool(2 ~ 10°C). |
| INCOMPATIBLE PRODUCTS | : Strong oxidizers, acids |

8. EXPOSURE CONTROL/PERSONAL PROTECTION

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| ENGINEERING MEASURES | : Use exhaust ventilation to keep airborne concentrations below exposure limits. Use adequate ventilation. |
| VENTILATION | : Local Exhaust ; Necessary, Mechanical(General) ; Necessary |
| CONTROL PARAMETERS | |
| ACGIH | : 200 ppm |
| OSHA | : 400 ppm |
| NIOSH | : 400 ppm |
| PERSONAL PROTECTION | |
| Respiratory protection | : Use respirators approved under appropriate government standards and follow all regulations. |
| HAND PROTECTION | : Chemical resistant gloves |
| EYE PROTECTION | : Safety glasses(goggles) |
| SKIN PROTECTION | : Protective clothing |

9. PHYSICAL AND CHEMICAL PROPERTIES

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| APPEARANCE | : Colorless, clear liquid |
| ODOR | : Characteristic odor |
| pH | : No data available |
| BOILING POINT | : approx.82.3 °C |
| MELTING POINT | : -89.7 °C |
| FLASH POINT | : 12 °C (TCC) |
| EXPLOSIVE LIMITS | : 2.0 ~ 12.0 vol % |
| VAPOR PRESSURE | : 4.4 kPa (at 20°C) |
| VAPOR DENSITY | : 2.1 |
| SPECIFIC GRAVITY | : 0.78505 g/cm ³ (at 20/4°C) |
| SOLUBILITY IN | |
| Water | : Miscible |
| Organic solvent | : Miscible |
| PARTITION COEFFICIENT ; n-octanol/water | : log Pow: 0.05 |
| AUTOIGNITION TEMPERATURE | : 399 °C |
| DECOMPOSITION TEMPERATURE | : No data available |

10. STABILITY AND REACTIVITY

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| REACTIVITY | : Stable under recommended storage conditions. |
| CHEMICAL STABILITY | : Deteriorated by sun-light. |
| CONDITION TO AVOID | : Sunlight, heat, open flames, high temperature, sparks, static electrical charge, other ignition sources, moisture |
| INCOMPATIBLE MATERIALS | : Oxidizers and strong acids |
| HAZARDOUS DECOMPOSITION PRODUCTS | : CO, CO ₂ |

11. TOXICOLOGICAL INFORMATION

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| ACUTE TOXICITY | : Oral; rat LD50=4,384 - 5,840 mg/kg (EPA pesticides,1995) Dermal; rabbit LC50=12,870 mg/kg (PATTY(6th,2012)) Inhalation; rat LC50=68.5, 72.6 mg/L (EHC 103(1990), SIDS(2002)) |
| SKIN CORROSION/IRRITATION | : Human; not irritating (EHC 103,1990) Rabbit; non to mild irritating |
| EYE DAMAGE/EYE IRRITATION | : Rabbit; mild to severe irritating, no serious damage (EHC(1990), SIDS(2002), PATTY(6th,2012), ECETOC TR48(1998)). |
| SENSITIZATION | : No data available |
| GERM CELL MUTAGENICITY | : Lack of data |
| CARCINOGENICITY | : This substance is classified in Group 3(IARC 71,1999), is classified in A4 (ACGIH(7th,2001)). |
| REPRODUCTIVE TOXICITY | : Effect to parent rats and babies (PATTY(6th,2012), SIDS(2002)). |
| SPECIFIC TARGET ORGAN TOXICITY - single exposure - | : Systemically Effect/Damage to human (Central nervous system inhibition, stimulation to the digestive tract system and effect to cardiovascular system). Irritating to nose or throat by inhalation (SIDS(2002), EHC 103(1990), Risk assessment report vol.6(2005)). |
| SPECIFIC TARGET ORGAN TOXICITY - repeated exposure - | : Effect/damage to rat by inhalation (SIDS(2002), PATTY(6th,2012)). |
| ASPIRATION HAZARD | : No data available |

12. ECOLOGICAL INFORMATION

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| ECOTOXICITY | : Killifish; LC50>100 mg/L,96h Daphnia magna; EC50>1,000 mg/L,48h (Aquatic toxicity tests of chemicals conducted by Ministry of the Environment in Japan,1997) |
| BIODEGRADABILITY | : BOD=86 % (Existing chemical substances safety evaluation data,1993) |
| BIOACCUMULATIVE POTENTIAL | : infinitely soluble (25°C)(HSDB,2013) |
| MOBILITY IN SOIL | : No data available |
| OTHER ADVERSE EFFECTS | : Not listed in Montreal Protocol list. |

13. DISPOSAL INFORMATION

Dispose in a hazardous-waste site in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations (contact country, local or state environment agency for specific rules).

14. TRANSPORT INFORMATION

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| IATA | |
| UN NUMBER | : 1219 |
| UN PROPER SHIPPING NAME | : iso-Propanol |
| CLASS | : 3, flammable liquid |
| PACKING GROUP | : II |
| ADR/RID | : 1219, iso-Propanol, II |
| DOT | : 1219, iso-Propanol, II |
| MARINE POLLUTANT | : No |

15. REGULATORY INFORMATION

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| US REGULATIONS | : Labeling according to EC Directives; See section 2 |
| EU REGULATIONS | : Labeling according to EC Directives; See section 2 |

16. OTHER INFORMATION**NOTICE:**

The information contained in the SDS description is applicable exclusively to the chemical substance identified herein and for its intended use as an analytical reference standard or reagent and to the unit quantity intended for that purpose. The information does not relate to, and may not be appropriate for, any application or larger quantity of the substance described. Our products are intended for the use by individuals possessing sufficient technical skill and qualification on use the material potential hazardous chemical. Accordingly, no representation or warranty, express or implied, with respect to merchantability and fitness for a particular purpose is made with respect to the information contained herein.

Attention:

This product in terms of chemical identity and the unit amount provide is intended for use in chemical analysis and not for human consumption, nor any other purpose.