Material Safety Data Sheet

Butyl Glycol (RXSOL-20-2099-050)

1. Product and Company Identifaction

Porduct Name	Butyl Glycol
Part Number	RXSOL-20-2099-050

Company Details:

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

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

Phone	+91 22 27672100 - 1400
Fax	+91 22 27612100 :::AOH :0091 9821214367
Email	mail@rxmarine.com
Website	www.rxmraine.com

2. Composition / informationon ingredients

Chemical Name	Cas No	Whight
Propionitrile	111-76-2	> 99 %

3. Hazards Identification

Classification according to UN GHS 2009	Classification of the substance and mixture: Flammable liquids: Cat.4 Serious eye damage/eye irritation: Cat.2A Acute toxicity: Cat.4 (oral) Skin corrosion/irritation: Cat.2
Signal Word	Warning
Hazard Statements	H227 Combustible liquid. H319 Causes serious eye irritation. H315 Causes skin irritation. H302 Harmful if swallowed
Precautionary statements	P280 Wear protective gloves and eye protection or face protection. P280 Wear eye protection. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P270 Do not eat, drink or smoke when using this product. P264 Wash contaminated body parts thoroughly after handling. Precautionary Statements (Response): 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 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P330 Rinse mouth. P332 + P313 If skin irritation occurs: Get medical attention. P337 + P313 If eye irritation persists: Get medical attention. P362 + P364 Take off contaminated clothing and wash it before reuse. P370 + P378 In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water spray for extinction. Precautionary Statements (Storage): P403 Store in a well-ventilated place. Precautionary Statements (Disposal): P501 Dispose of contents and container to hazardous or special waste collection point
Other hazards which do not result in classification:	If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. See section 12 - Results of PBT and vPvB assessment.

4. First Aid Measures

General advice	.Remove contaminated clothing. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). If not breathing, give artificial respiration. First aid personnel should pay attention to their own safety.
If inhale	Keep patient calm, remove to fresh air, seek medical attention.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin Contact	Wash thoroughly with soap and water
Ingestion	Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.
Most important symptoms and effects, both acute and delaye	Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11. Hazards: Skin resorption hazard. Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11. (Further) symptoms and / or effects are not known so far Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote

5. Fire-fighting Measures

Flammability	Flammable liquid Cool endangered containers with water-spray. See SDS section 7 - Handling and storage
Suitable extinguishing media	dry powder, water spray, carbon dioxide, alcohol-resistant foam
Unsuitable extinguishing media	water jet .
Special protective equipment:	Wear a self-contained breathing apparatus. Special protective equipment for firefighters
Further information	Evacuate area of all unnecessary personnel. Fight fire from maximum distance.Extend fire extinguishing measures to the surroundings. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.
Additional information:	Use extinguishing measures to suit surroundings.

6. Accidental Release Measures

Personal precautions	Handle in accordance with good industrial hygiene and safety practice.Avoid all sources of ignition: heat, sparks, open flame.Use antistatic tools
Enviromental Precaution	Discharge into the environment must be avoided.
Methods for cleaning up or taking up:	For large amounts: Pump off product. For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Dispose of absorbed material in accordance with regulations.
Additional information:	High risk of slipping due to leakage/spillage of product. Release of substance/product can cause fire or explosion. Shut off or stop source of leak. Shut off or stop released substance/product under safe conditions. Pack in tightly closed containers for disposal.

7. Handling and Storage

Handling	Ensure thorough ventilation of stores and work areas. Prevent contact with air/oxygen (formation of peroxide). Protection against fire and explosion: Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.
Storage	Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place

Storage stability	Storage temperature: = 35 °C The stability data given is only valid when stored under oxygen free inert gases or in containers that are impermeable to oxygen.

8. Exposure controls and personal protection

Components with occupational exposure limits	2-butoxyethanol, 111-76-2; TWA value 20 ppm (ACGIHTLV) TWA value 50 ppm (OEL (TH))
Eye protection	Safety glasses with side-shields (frame goggles) (e.g. EN 166)
Body Protection	Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).
Personal protective equipment Respiratory protection:	Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A) Hand protection: Chemical resistant protective gloves (EN ISO 374-1) Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): butyl rubber (butyl) - 0.7 mm coating thickness Manufacturer's directions for use should be observed because of great diversity of types. Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.
General safety and hygiene measures:	Avoid contact with the skin, eyes and clothing. Avoid inhalation of vapour. Wearing of closed work clothing is required additionally to the stated personal protection equipment.

9. Physical and chemical properties

Physical state	liquid
Colour	Colorless
Odour	ether-like
Odor Threshold	not determined
pH	(20 °C) miscible, neutral
pKA:	15 (20 °C) The substance does not dissociate.
Melting Point	-74.8 °C Literature data
Boiling Point	173.5 °C (1,013 hPa)
Flash Point	67 °C (DIN 51758, closed cup)
Evaporation Rate	Value can be approximated from Henry's Law Constant or vapor pressure.
Flammability (solid, gas)	Combustible liquid.
Lower Explosive limits	1.1 %(V) For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.
Upper explosive limits	10.6 %(V) For liquids not relevant for classification and labelling.
Ignition temperature	232 °C

Decomposition temperature	No decomposition if stored and handled as prescribed/indicated. Self ignition: Temperature: 20 °C Based on its structural properties the product is not classified as selfigniting. Test type: Spontaneous selfignition at room-temperature.
Self heating ability	not applicable, the product is a liquid
Explosion hazard	Based on the chemical structure there is no indication of explosive properties.
Fire promoting properties	Based on its structural properties the product is not classified as oxidizing.
Vapour pressure	0.8 hPa (20 °C) Literature data 1.17 hPa (25 °C) Literature data
Viscosity dynamic	3.3 mPa.s (20 °C) The value was determined by calculation from the detected kinematic viscosity.
Density	0.9000 g/cm3 (20 °C, 1,013 hPa)
Relative Density	0.9000 (20 °C)
Relative vapour density (air)	4.08 (20 °C) Heavier than air.
Solubility in water	Literature data. 900 g/l (20 °C)
Solubility (qualitative) solvent(s)	organic solvents soluble
Partitioning coefficient n-octanol/water (log Pow)	0.81 (25 °C) The data refers to the undissociated form of the substance.
Adsorption/water - soil	KOC: 2.82; log KOC: 0.45
Surface tension	65 mN/m (20 °C; 2 g/l)
Molar mass	118.18 g/mol

10. Stability and reactivity

Conditions to avoid	No special precautions other than good housekeeping of chemicals
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated
Substances to avoid	strong oxidizing agents
Corrosion to metals	No corrosive effect on metal
Hazardous reactions	Reacts with light metals, with evolution of hydrogen. Reacts with strong oxidizing agents. Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.
Chemical stability	The product is stable if stored and handled as prescribed/indicated.
Reactivity	In the event of fire: see section 5

11. Toxicological information

Acute toxicity	Experimental/calculated data: LD50guinea pig (oral): 1,200 mg/kg (similar to OECD guideline 401)
Acute inhalation toxicity	LC0 guinea pig (by inhalation): > 2.25 mg/l 4 h (similar to OECD guideline 403) No mortality was observed. The European Union (EU) has classified this substance as 'toxic' (Cat. 3). The vapour was tested.
Acute dermal toxicity	LD50 guinea pig (dermal): > 2,000 mg/kg (OECD Guideline 402)
Acute toxicity other routes	LD50 mouse (intraperitoneal): 1,174 mg/kg
Assessment of acute toxicity	Of moderate toxicity after single ingestion. The inhalation of a highly enriched/saturated vapor-airmixture represents an unlikely acute hazard. Virtually nontoxic after a single skin contact.
Symptoms	Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Irritation	Assessment of irritating effects: Eye contact causes irritation. Skin contact causes irritation. Experimental/calculated data: Skin corrosion/irritation rabbit: Irritant. (BASF-Test) Serious eye damage/irritation rabbit: Irritant. (OECD Guideline 405)
Respiratory or skin sensitization	Assessment of sensitization: Skin sensitizing effects were not observed in animal studies. Experimental/calculated data: Guinea pig maximization test guinea pig: Non-sensitizing. (OECD Guideline 406)
Germ cell mutagenicity	Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not mutagenic in studies with mammals.
Carcinogenicity	Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests. A clear indication of an increased risk of cancer in humans has so far not been shown. IARC Group 3 (not classifiable as to human carcinogenicity).
Reproductive toxicity	Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.
Developmental toxicity	Assessment of teratogenicity: In animal studies the substance did not cause malformations.
Specific target organ toxicity - (single exposure)	Based on the available information there is no specific target organ toxicity to be expected after a single exposure.
Repeated dose toxicity and Specific target organ toxicity (repeated exposure)	Assessment of repeated dose toxicity: Damages blood cells. Due to the species specific mode of action, the effects are not expected to occur in humans.
Other relevant toxicity information	Skin resorption hazard

12. Ecological information

Ecotoxicity	Assessment of aquatic toxicity: There is a high probability that the product is not acutely harmful to aquatic organisms. Based on long-term (chronic) toxicity study data, the product is very likely not harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. Toxicity to fish: LC50 (96 h) 1,474 mg/l, Oncorhynchus mykiss (OECD Guideline 203, static) Nominal concentration. Literature data Aquatic invertebrates: EC50 (48 h) 1,550 mg/l, Daphnia magna (OECD Guideline 202, part 1, static) Nominal concentration. Literature data. Aquatic plants: EC50 (72 h) 1,840 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static) Nominal concentration. Literature data. Microorganisms/Effect on activated sludge: Toxic limit concentration (16 h) > 700 mg/l, Pseudomonas putida (DIN 38412 Part 8, static) Nominal concentration. Literature data. Chronic toxicity to fish: No observed effect concentration (21 d) > 100 mg/l, Brachydanio rerio (OECD Guideline 204, semistatic) Nominal concentration. Literature data. Limit concentration test only (LIMIT test). Chronic toxicity to aquatic invertebrates: No observed effect concentration (21 d), 100 mg/l, Daphnia magna (OECD Guideline 211, semistatic) Nominal concentration. Literature data. Assessment of terrestrial toxicity: No data available concerning terrestrial toxicity.
Mobility	Assessment transport between environmental compartments: The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.
Persistence and degradability	Assessment biodegradation and elimination (H2O): Readily biodegradable (according to OECD criteria). Elimination information: 90 % CO2 formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge) Assessment of stability in water: Substance is readily biodegradable, therefore hydrolysis is not expected to be relevant
Bioaccumulation potential	Assessment bioaccumulation potential: Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected. Bioaccumulation potential: No data available.

Other adverse effect	Adsorbable organically-bound halogen (AOX): This product contains no organically-bound halogen

13. Disposal considerations

Contaminated packaging	Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned. Disposal must be made according to official regulations.

14. Transport information

Domestic transport	Not classified as a dangerous good under transport regulations UN number or ID number Not applicable UN proper shipping name: Not applicable Transport hazard class(es): Not applicable Packing group: Not applicable Environmental hazards: Not applicable Special precautions for user None known
Sea transport	IMDG Not classified as a dangerous good under transport regulations UN number or ID number: Not applicable UN proper shipping name: Not applicable Transport hazard class(es): Not applicable Packing group: Not applicable Environmental hazards: Not applicable Marine pollutant: no Special precautions for user None known
Air transport	IATA/ICAO Not classified as a dangerous good under transport regulations UN number or ID number Not applicable Proper shipping name: Not applicable Transport hazard class(es): Not applicable Packing group: Not applicable Environmental hazards: Not applicable Special precautions for user None known

15. Regulatory information

Other regulations	If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other information

Other Information	The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and weassume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rx Marine International has been advised of the possibility of such damages.