# Material Safety Data Sheet

**N ACETYL Y BUTYROLACTONE FOR SYNTHESIS** (RXSOL-60-6605-039)

## 1. Product and Company Identifaction

| | |
|---|---|
| Product Name | N ACETYL Y BUTYROLACTONE FOR SYNTHESIS |
| Part Number | RXSOL-60-6605-039 |

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 20871200 - 1400 |
| Fax | +91 22 2087 1500:::AOH :0091 9821214367 |
| Email | mail@rxmarine.com |
| Website | www.rxmarine.com |


## 2. Composition / informationon ingredients

| Chemical Name | CAS-No | EC NO. | Weight % |
|---|---|---|---|
| N ACETYL Y BUTYROLACTONE FOR SYNTHESIS | 517-23-7 | 208-235-2 | 100 % |

## 3. Hazards Identification

| | |
|---|---|
| Signal Word | Warning |
| Hazard Statements | H315 Causes skin irritation.<br>H319 Causes serious eye irritation.<br>H335 May cause respiratory irritation |
| Classification of the substance or mixture | Classification according to Regulation (EC) No 1272/2008<br>Skin irritation (Category 2), H315<br>Eye irritation (Category 2), H319<br>Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335<br>For the full text of the H-Statements mentioned in this Section, see Section 16. |
| Label elements | Labelling according Regulation (EC) No 1272/2008 |
| Precautionary statement(s) | P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.<br>P264 Wash skin thoroughly after handling.<br>P271 Use only outdoors or in a well-ventilated area.<br>P280 Wear protective gloves/ eye protection/ face protection.<br>P302 + P352 IF ON SKIN: Wash with plenty of water.<br>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.<br>Remove contact lenses, if present and easy to do. Continuerinsing. |
| Other hazards | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher |

## 4. First Aid Measures

| | |
|---|---|
| General advice | Show this material safety data sheet to the doctor in attendance |
| If inhaled | After inhalation: fresh air. |
| Eye Contact | After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses. |

| | |
|---|---|
| Skin Contact | In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. |
| Inhalation | Remove from exposure, lie down. Remove to fresh air. |
| Ingestion | Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. If possible drink milk afterwards |
| Notes to Physician | Treat symptomatically |
| If swallowed | After swallowing: immediately make victim drink water (two glasses at most). Consult a physician. |
| Most important symptoms and effects, both acute and delaye | The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 |
| Indication of any immediate medical attention and special treatment needed | No data available |

## 5. Fire-fighting Measures

| | |
|---|---|
| Suitable Extinguishing Media | For this substance/mixture no limitations of extinguishing agents are given. |
| Flammability | May be combustible at high temperature. |
| Flash Point | No information available. |
| Suitable extinguishing media | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide |
| Unsuitable extinguishing media | For this substance/mixture no limitations of extinguishing agents are given |
| Special hazards arising from the substance or mixture | Carbon oxides<br>Vapors are heavier than air and may spread along floors.<br>Forms explosive mixtures with air on intense heating |
| Further information | Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| Hazardous combustion products | Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO2). |
| Advice for firefighters | Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. |
| | As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full |
| Protective Equipment | As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors. |
| Specific Hazards Arising from the Chemical | Has a fire-promoting effect due to the release of oxygen.<br>Ambient fire may liberate hazardous vapours. |

## 6. Accidental Release Measures

| | |
|---|---|
| Personal precautions, protective equipment and emergency procedures | Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.<br>For personal protection see section 8. |
| Spillage | Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing) Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas dike if needed. Eliminate all ignition sources. Call for assistance on disposal. |
| Personal Protection | Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Protective equipment see section 8. |
| Enviromental Precaution | Do not let product enter drains. |
| Methods and materials for containment and cleaning | Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions<br>Take up with liquid-absorbent material (e.g. Chemizorb® ).<br>Dispose of properly. Clean up affected area. |
| Reference to other sections | For disposal see section 13. |

## 7. Handling and Storage

| | |
|---|---|
| Advice on safe handling | Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.For precautions see section 2.2. |
| Advice on protection against fire and explosion | Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge |
| Hygiene measures | Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions |
| Precautions for safe handling | For precautions see section 2.2. |
| Conditions for safe storage, including any incompatibilities | Store in cool place. Keep container tightly closed in opened must be carefully resealed and kept upright to Storage class (TRGS 510): Flammable liquids. |
| Storage conditions | Tightly closed. |
| Storage conditions | Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed |
| Storage class | Storage class (TRGS 510): 10: Combustible liquids |
| Specific end use(s) | Apart from the uses mentioned in section 1.2 no other specific uses are stipulated |
| Handling | Avoid contact with skin and eyes. Avoid contact with skin and clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Avoid breathing vapors or mists. Do not ingest. If swallowed then seek immediate medical assistance. Wash thoroughly after handling |
| Advice on general occupational hygiene | Advice on safe handling Observe label precautions. Change contaminated clothing. Wash hands after working with substance. |

## 8. Exposure controls and personal protection

| | |
|---|---|
| Occupational Exposure limit values | This product does not contain any hazardous materials with occupational exposure limitsestablished by the region specific regulatory bodies. |
| Biological limit values | No data available |
| Exposure controls | Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the riskelimination area |
| Engineering Control | Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday |
| Eye/face protection | Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. |
| Body Protection | Wear appropriate protective gloves and clothing to prevent skin exposure type of protective equipment must be selected according to the concentration |
| Skin protection | Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices Wash and dry hands contaminated gloves after use in accordance with applicable laws and good laboratory |
| Respiratory protection | No protective equipment is needed under normal use conditions. |
| Other Protection Measure | None under normal use conditions |
| Contro of environmental exposure | Prevent further leakage or spillage if safe to do so. Do not let product enter drains |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |
| Thermal hazards | No data available |

## 9. Physical and chemical properties

| | |
|---|---|
| Physical state | Liquid |
| Appearance | Colorless |
| Colour | Colourless |

| | |
|---|---|
| Odour | Odorless |
| Odor Threshold | No data available |
| pH | No information available |
| Melting Point | NA |
| Initial boiling point and boiling range | 107 - 108 °C at 7 hPa - lit. |
| Boiling Point | No data available |
| Evaporation Rate | Not Applicable |
| Flammability (solid, gas) | No data available |
| Explosive limits | No Data Available |
| Upper/lower flammability or explosive limits | No data available |
| Autoignition temperature | No data available |
| Decomposition temperature | No data available |
| Vapour pressure | No Data Available |
| Density | 1,19 g/cm3 at 25 °C - lit. |
| Vapour Density | No Data Available |
| Specific Gravity | No data available |
| Upper/lower flammability or explosive limits | No data available |
| Flash point | 113 °C - closed cup |
| Vapour density | NA |
| Vapour pressure | NA |
| Partition coefficient | No data available |
| Auto-ignition emperature | 300 °C |
| Explosive properties | None |
| Solubility | DMSO (Slightly), Water (Slightly) |
| Ignition temperature | No information available. |
| Molecular Weight | NA |
| Molecular Formula | NA |
| Particle characteristics | No data available |

## 10. Stability and reactivity

| | |
|---|---|
| Reactivity | Forms explosive mixtures with air on intense heating.<br>A range from approx. 15 Kelvin below the flash point is to be rated as critical. |
| Stability | The product is chemically stable under standard ambient conditions (room temperature) . |
| Possibility of hazardous reactions | No data available |
| Conditions to avoid | Strong heating |
| Incompatible materials | Strong oxidizing agents, Strong bases |
| Hazardous Polymerization | Hazardous decomposition products formed under fire conditions - Carbon oxides In the event of fire: see section 5 |

## 11. Toxicological information

| | |
|---|---|
| Acute toxicity | Oral No data available<br>Inhalation No data available<br>Dermal No data available |
| Skin corrosion/irritation | Skin - Rabbit(Pentan-1-ol)Result: Skin irritation - 24 h |
| Serious eye damage/eye irritation | No data available |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |
| Respiratory or skin sensitization | No data available |

| | |
|---|---|
| Serious eye damage/eye irritation | No data available |
| Rout Of Entry | Inhalation. Ingestion. |
| Toxicity to Animal | No data available |
| Toxic Effects on Human | No data available |
| Germ cell mutagenicity | Ames test(Pentan-1-ol) Salmonella typhimurium Result: negative |
| Reproductive toxicity | No data available |
| Specific target organ toxicity - single exposure | No data available |
| Special Remarks on other Toxi Effects on Humans | Acute Potential Health Effects: Skin: Causes skin irritation. May cause skin sensitization, an allergic reation, which becomes evident upon re-exposure to this material. Eyes: Causes eye irritation. Ingestion: Causes gastrointestinal (digestive) tract irritation with nausea, vomiting, and diarrhea. May be harmful if swallowed. Inhalation: Causes respiratory tract irritation. May cause chemical pneumonitis and pulmonary edema, inflammation, edema of bronchi and larynx. Chronic Potential Health Effects: Repeated or prolonged skin exposure may cause allergic reactions in sensitive individuals. Repeated or prolonged exposure by inhalation may affect respiration and metabolism. |
| Additional Information | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.<br>To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. |
| Assessment | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. RTECS: OD2800000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice. |
| Endocrine disrupting properties | No information available |

## 12. Ecological information

| | |
|---|---|
| Persistence and degradability | NA |
| Toxicity | NA |
| Bioaccumulative potential | No information available |
| Toxicity to fish | NA |
| Toxicity to daphnia and other aquatic invertebrates | NA |
| Toxicity to algae | static test ErC50 - SELENASTRUM - > 998 mg/l - 72 h (OECD Test Guideline 201) |
| Eco Toxicity | Not Available |
| COD and BOD 5 | Not Available |
| Products Biodegradation | NA |
| Mobility in soil | NA |
| Results of PBT and vPvB assessment | This substance/mixture contains no components considered to be either persistent bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. |
| Endocrine disrupting properties | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher |
| Assessment | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. |
| Other adverse effects | No data available |

## 13. Disposal considerations

| | |
|---|---|
| Waste Disposal Methods | NA |

## 14. Transport information

| | |
|---|---|
| DOT | Not regulated |
| TDG | Not regulated |
| IATA | Not regulated |
| MDG/IMO | Not regulated |

## 15. Regulatory information

| | |
|---|---|
| SARA 313 | Not applicable |
| SARA 311/312 Hazard Categories | See section 2 for more information |
| CWA (Clean Water Act) | Not applicable |
| Clean Air Act | Not applicable |
| OSHA - Occupational Safety and Health Administration | Not applicable |
| CERCLA | Not applicable |
| California Proposition 65 | This product does not contain any Proposition 65 chemicals. |
| U.S. State Right-to-Know Regulations | Not applicable |
| Reportable Quantity (RQ): | Not applicable |
| DOT Marine Pollutant | Not applicable |
| DOT Severe Marine Pollutant | Not applicable |
| U.S. Department of Homeland Security | This product does not contain any DHS chemicals |
| Mexico - Grade | No information available |

## 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 |