

1. Product and Company Identification

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Product Name Bio- methanol
Part Number RXSOL-60-2105-025

Company Details:

RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
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2. Composition / Information on ingredients

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Product name	Cas No	EC No	Weight	Formula
Bio-Methanol (Gas-to- Liquid) for synthesis	67-56-1	200-659-6	32,04 g/mol	CH ₄ O

3. Hazards Identification

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Signal Word	Danger
Hazard Statements	H225 Highly flammable liquid and vapor. H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled. H370 Causes damage to organs (Eyes, Central nervous system).
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.
Classification of the substance or mixture	No data available
Supplemental Hazard Statements	No data available
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

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General advice	First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance
If inhaled	fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.
Eye Contact	After eye contact: rinse out with plenty of water. Remove contact lenses.
Swallowed	Fresh air. Make victim drink ethanol (e.g. 1 drinking glass of a 40%

	alcoholic beverage). Call a doctor immediately (mention methanol ingestion). Only in exceptional cases, if no medical care is available within one hour, induce vomiting (only in fully conscious persons) and make victim drink ethanol again (approx. 0.3 ml of a 40% alcoholic beverage/kg body weight/hour).
Skin Contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.
Inhalation	No data available
Ingestion	No data available
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

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Flammability	No data available
Suitable extinguishing media	Water Foam Carbon dioxide (CO2) Dry powder
Unsuitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given
Special hazards arising from the substance or mixture	Carbon oxides Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.
Further information	Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Hazardous combustion products	No data available
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.
Protective Equipment	No data available
Specific Hazards Arising from the Chemical	No data available

6. Accidental Release Measures

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Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
Spillage	No data available
Personal Protection	No data available
Environmental Precaution	Do not let product enter drains. Risk of explosion.
Methods and materials for containment and cleaning	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.
Reference to other sections	For disposal see section 13.

7. Handling and Storage

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Advice on protection against fire and explosion	Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
Incompatible materials	No data available
Hygiene measures	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

Advice on safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols
Conditions for safe storage including any incompatibilities	No data available
Storage conditions	Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons. Recommended storage temperature see product label
Storage class	Storage class (TRGS 510) 3 Flammable liquids
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
Advice on general occupational hygiene	No data available

8. Exposure controls and personal protection

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Exposure controls	Personal protective equipment
Engineering Control	No data available
Eye/face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses
Body Protection	Flame retardant antistatic protective clothing
Skin protection	This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material butyl-rubber Minimum layer thickness 0,7 mm Break through time 480 min Material tested:Butoject® (KCL 898) This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet www.kcl.de). Splash contact Material: Viton® Minimum layer thickness 0,7 mm Break through time: 120 min Material tested Vitoject® (KCL 890 / Aldrich Z677698, Size M)
Respiratory protection	Required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter typeFilter type AXThe entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
Other Protection Measure	No data available

9. Physical and chemical properties

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Physical state	Liquid
Colour	Colorless
Odour	Odorless
Odor Threshold	No data available
pH	No data available
Melting Point	-97,8 °C - (ECHA)
Boiling Point	64,7 °C at 1.013 hPa - (ECHA)
Flash Point	9,7 °C - closed cup - Regulation (EC) No. 440/2008, Annex, A.9
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Explosive limits	No data Available

Upper/lower flammability or explosive limits	Upper explosion limit 44 %(V) Lower explosion limit 5,5 %(V)
Autoignition temperature	455,0 °C at 1.013 hPa - DIN 51794
Decomposition temperature	No data available
Vapour pressure	169,27 hPa at 25 °C
Viscosity	Kinematic 0,54 - 0,59 mm ² /s at 20 °C dynamic > 0,544 - < 0,59 mPa.s at 25 °
Density	0,79 g/cm ³ at 20 °C
Relative Density	0,79 - 0,8 at 20 °C
Specific Gravity	No data available
Partition coefficient	Log Pow -0,77 - (Lit.), Bioaccumulation is not expected.
Explosive properties	No data available
Solubility	1.000 g/l at 20 °C - completely miscible at 20 °C soluble
Ignition temperature	No data available
Particle characteristics	No data available

10. Stability and reactivity

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Reactivity	Vapors may form explosive mixture with air
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature)
Possibility of hazardous reactions	Risk of explosion with Oxidizing agents perchloric acid perchlorates salts of oxyhalogenic acids chromium(VI) oxide halogen oxides nitrogen oxides nonmetallic oxides chromosulfuric acid chlorates hydrides zinc diethyl halogens powdered magnesium hydrogen peroxide Nitric acid sulfuric acid permanganic acid sodium hypochlorite Exothermic reaction with acid halides Acid anhydrides Reducing agents acids Bromine Chlorine Chloroform magnesium tetrachloromethane Risk of ignition or formation of inflammable gases or vapours with Fluorine Millipore-8.48335 Page 9 of 15 The life science business of Merck operates as MilliporeSigma in the US and Canada Oxides of phosphorus Raney-nickel Generates dangerous gases or fumes in contact with: Alkaline earth metals Alkali metals
Conditions to avoid	Warming.
Incompatible materials	Various plastics, magnesium, zinc alloys
Hazardous decomposition products	In the event of fire: see section 5

11. Toxicological information

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Acute toxicity	Acute toxicity estimate Oral - 100,1 mg/kg (Expert judgment) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Acute toxicity estimate Oral - 100,1 mg/kg (Expert judgment) Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Symptoms Nausea, Vomiting Acute toxicity estimate Inhalation - 4 h - 3,1 mg/l - vapor (Expert judgment) Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Acute toxicity estimate Inhalation - 4 h - 3,1 mg/l - vapor (Expert judgment) Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Symptoms Irritation symptoms in the respiratory tract. Acute toxicity estimate Dermal - 300,1 mg/kg (Expert judgment) Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Acute toxicity estimate Dermal - 300,1 mg/kg (Expert judgment) Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Skin corrosion/irritation	Skin - Rabbit Result No skin irritation (ECHA) Drying-out effect resulting in rough and chapped skin
Serious eye damage/irritation	Eyes - Rabbit Result No eye irritation (ECHA)
Respiratory or skin sensitization	Sensitisation test - Guinea pig Result negative (OECD Test Guideline 406)

Carcinogenicity	Did not show carcinogenic effects in animal experiment
Germ cell mutagenicity	Based on available data the classification criteria are not met. Test Type Ames test Test system Salmonella typhimurium Metabolic activation: with and without metabolic activation Method OECD Test Guideline 471 Result: negative Test Type In vitro mammalian cell gene mutation test Test system Chinese hamster lung cells Metabolic activation with and without metabolic activation Method OECD Test Guideline 476 Result negative Test Type: Micronucleus test Species Mouse Cell type Bone marrow Application Route Intraperitoneal injection Method OECD Test Guideline 474 Result negative
Reproductive toxicity	Based on available data the classification criteria are not met
Specific target organ toxicity - single exposure	Causes damage to organs. - Eyes, Central nervous system Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Additional Information	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. Acute effects: Headache, Dizziness, Drowsiness, narcosis, Blindness, Impairment of vision, irritant effects, Nausea, Vomiting, agitation, spasms, inebriation, Coma Drying-out effect resulting in rough and chapped skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Systemic effects: acidosis drop in blood pressure agitation, spasms inebriation Dizziness Drowsiness Headache Impairment of vision Blindness narcosis Coma Symptoms may be delayed. Damage to Liver Kidney Cardiac Irreversible damage of the optical nerve. Other dangerous properties can not be excluded. This substance should be handled with particular care

12. Ecological information

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Persistence and degradability	Biodegradability Result 99 % - Readily biodegradable. (OECD Test Guideline 301D) Biochemical Oxygen Demand (BOD) 600 - 1.120 mg/g (IUCLID) Chemical Oxygen Demand (COD) 1.420 mg/g Remarks: (IUCLID) Theoretical oxygen demand 1.500 mg/g (Lit.) Ratio BOD/ThBOD 76 % Closed Bottle test(IUCLID)
Toxicity to fish	Flow-through test LC50 - Lepomis macrochirus (Bluegill) - 15.400,0 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	Semi-static test EC50 - Daphnia magna (Water flea) - 18.260 mg/l - 96 h (OECD Test Guideline 202)
Toxicity	Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia similis (Water flea) - > 100 mg/l - 48 h (Regulation (EC) No. 440/2008, Annex, C.2)
Toxicity to bacteria	Static test IC50 - activated sludge - > 1.000 mg/l - 3 h (OECD Test Guideline 209)
Toxicity to algae	Static test ErC50 - Pseudokirchneriella subcapitata (green algae) - ca. 22.000,0 mg/l - 96 h (OECD Test Guideline 201)
Products Biodegradation	No data available
Mobility in soil	Will not adsorb on soil.
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
Other adverse effects	Additional ecological information Avoid release to the environment. Stability in water at 19 °C 83 - 91 % - 72 h Hydrolyzes on contact with water. Hydrolyzes readily. - 2,2 yr reaction with hydroxyl radicals(IUCLID)

13. Disposal considerations

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Product	See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions
Contaminated packaging	No data available
Waste treatment Method	No data available

14. Transport information

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UN number	ADR/RID: 1230 IMDG: 1230 IATA:1230
UN proper shipping name	ADR/RID:METHANOL IMDG:METHANOL IATA:METHANOL
Transport hazard class(es)	ADR/RID:3 (6.1) IMDG:3 (6.1) IATA: 3 (6.1)
Packaging group	ADR/RID:II IMDG:II IATA:II
Environmental hazards	ADR/RID:No IMDG Marine pollutant: No IATA: No
Special precautions for user	Tunnel restriction code (D/E)
Further information	No data available

15. Regulatory information

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Safety, health and environmental regulations/legislation specific for the substance or mixture	This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
Other regulations	Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work.
Chemical Safety Assessment	A Chemical Safety Assessment has been carried out for this substance.

16. Other information

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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 we assume 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 we 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.
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