1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING 1.1 **Product identifiers** Methylmagnesium iodide solution Product name 1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses Laboratory chemicals, Manufacture of substances 2. HAZARDS IDENTIFICATION 2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP] Substances, which in contact with water, emit flammable gases (Category 1) Skin corrosion (Category 1B) Specific target organ toxicity - single exposure (Category 3) Classification according to EU Directives 67/548/EEC or 1999/45/EC Contact with water liberates extremely flammable gases. Causes burns. Harmful if swallowed. May form explosive peroxides. Vapours may cause drowsiness and dizziness. Reacts violently with water. 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 [CLP] Pictogram Signal word Danger Hazard statement(s) H260 In contact with water releases flammable gases which may ignite spontaneously. H314 Causes severe skin burns and eye damage. H336 May cause drowsiness or dizziness. Precautionary statement(s) P223 Keep away from any possible contact with water, because of violent reaction and possible flash fire. P231 + P232Handle under inert gas. Protect from moisture. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P261 Wear protective gloves/ protective clothing/ eye protection/ face P280 protection. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for P370 + P378extinction. P422 Store contents under inert gas. Supplemental Hazard information (EU) **EUH014** Reacts violently with water. **EUH019** May form explosive peroxides. According to European Directive 67/548/EEC as amended. Hazard symbol(s) R-phrase(s) R14/15 Reacts violently with water, liberating extremely flammable gases. R19 May form explosive peroxides. Harmful if swallowed. R22 R34 Causes burns. R67 Vapours may cause drowsiness and dizziness. S-phrase(s) In case of contact with eyes, rinse immediately with plenty of water and S26 seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. S36/37/39 In case of accident or if you feel unwell, seek medical advice immediately S45 (show the label where possible). 2.3 Other hazards - none 3. **COMPOSITION/INFORMATION ON INGREDIENTS** 3.2 **Mixtures** Formula CH3IMg Classification Concentration Component **Iodomethylmagnesium** CAS-No. 917-64-6 50 % Water-react 1; Skin Corr. 1B; EC-No. 213-031-1 H260, H314, EUH014 C, F, R14/15 - R34 **DIETHYL ETHER** CAS-No. 50 % 60-29-7 Flam. Liq. 1; STOT SE 3; EC-No. 200-467-2 Acute Tox. 4; H224, H302, H336, EUH019, EUH066 F+, Xn, R12 - R19 - R22 - R66 - R67 For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16 4. FIRST AID MEASURES 4.1 **Description of first aid measures** General advice Consult a physician. Show this safety data sheet to the doctor in attendance. If inhale d If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. In case of skin contact Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician. In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. If swallowed Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. 4.2 Most important symptoms and effects, both acute and delayed Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Contact with eyes can cause:, Redness, Blurred vision, Provokes tears., Prolonged or repeated contact with skin may cause:, defatting, Dermatitis, burning sensation, Cough, wheezing, laryngitis, Shortness of breath 4.3 Indication of immediate medical attention and special treatment needed no data available **5.** FIRE-FIGHTING MEASURES 5.1 Extinguishing media Suitable extinguishing media Dry powder Carbon dioxide (CO2) Unsuitable extinguishing media Water **5.2** Special hazards arising from the substance or mixture Carbon oxides, Hydrogen iodide, Magnesium oxide 5.3 **Precautions for fire-fighters** Wear self contained breathing apparatus for fire fighting if necessary. **5.4 Further information** no data available ACCIDENTAL RELEASE MEASURES **6.** 6.1 Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. **6.2 Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water. 6.4 Reference to other sections For disposal see section 13. 7. HANDLING AND STORAGE 7.1 **Precautions for safe handling** Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. 7.2 Conditions for safe storage, including any incompatibilities Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Never allow product to get in contact with water during storage. Light sensitive. Air sensitive. Heat sensitive. Handle and store under inert gas. 7.3 Specific end uses no data available 8. EXPOSURE CONTROLS/PERSONAL PROTECTION 8.1 **Control parameters Components with workplace control parameters** 8.2 **Exposure controls Appropriate engineering controls** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Personal protective equipment Eye/face protection Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). 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. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. **Body Protection** Complete suit protecting against chemicals, Flame retardant protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Respiratory protection Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 9. PHYSICAL AND CHEMICAL PROPERTIES 9.1 Information on basic physical and chemical properties Form: liquid a) Appearance Colour: dark grey Odour no data available b) Odour Threshold no data available no data available d) pН Melting/freezing point no data available Initial boiling point and no data available boiling range Flash point no data available g) Evaporation rate no data available h) Flammability (solid, gas) no data available i) Upper/lower j) no data available flammability or explosive limits Vapour pressure no data available k) Vapour density 1) no data available m) Relative density no data available no data available Water solubility n) Partition coefficient: nno data available octanol/water Autoignition no data available temperature Decomposition no data available temperature no data available Viscosity r) Explosive properties no data available s) no data available Oxidizing properties 9.2 Other safety information no data available **10.** STABILITY AND REACTIVITY 10.1 Reactivity no data available **Chemical stability** 10.2 no data available Possibility of hazardous reactions 10.3 Reacts violently with water. Conditions to avoid 10.4 Exposure to moisture. 10.5 **Incompatible materials** Oxidizing agents, Strong acids, Oxygen, Alcohols, acids, Reacts violently with water. Hazardous decomposition products 10.6 Other decomposition products - no data available TOXICOLOGICAL INFORMATION 11.1 **Information on toxicological effects Acute toxicity** Skin corrosion/irritation no data available Serious eye damage/eye irritation no data available Respiratory or skin sensitization no data available Germ cell mutagenicity no data available Carcinogenicity No component of this product present at levels greater than or equal to 0.1% is identified as IARC: probable, possible or confirmed human carcinogen by IARC. Reproductive toxicity no data available Specific target organ toxicity - single exposure no data available **Specific target organ toxicity - repeated exposure** no data available As piration hazard no data available Potential health effects Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Vapours may cause drowsiness and dizziness. Ingestion May be harmful if swallowed. Causes burns. Skin May be harmful if absorbed through skin. Causes skin burns. Eyes Causes eye burns. Signs and Symptoms of Exposure Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Contact with eyes can cause:, Redness, Blurred vision, Provokes tears., Prolonged or repeated contact with skin may cause:, defatting, Dermatitis, burning sensation, Cough, wheezing, laryngitis, Shortness of breath **Additional Information** RTECS: Not available **12. ECOLOGICAL INFORMATION** 12.1 **Toxicity** no data available 12.2 Persistence and degradability no data available 12.3 **Bioaccumulative potential** no data available 12.4 Mobility in soil no data available 12.5 Results of PBT and vPvB assessment no data available 12.6 Other adverse effects no data available **13. DISPOSAL CONSIDERATIONS** 13.1 Waste treatment methods **Product** Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Contaminated packaging Dispose of as unused product. **14.** TRANSPORT INFORMATION 14.1 **UN-Number ADR/RID: 3399** IMDG: 3399 IATA: 3399 14.2 **UN proper shipping name** ADR/RID: ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE (DIETHYL ETHER, Iodomethylmagnesium) ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE IMDG: (Iodomethylmagnesium, DIETHYL ETHER) Organometallic substance, liquid, water-reactive, flammable (Iodomethylmagnesium, IATA: DIETHYL ETHER) Passenger Aircraft: Not permitted for transport 14.3 Transport hazard class(es) ADR/RID: 4.3 (3) IMDG: 4.3 (3) IATA: 4.3 (3) 14.4 Packaging group ADR/RID: I IMDG: I IATA: I 14.5 **Environmental hazards** IATA: no ADR/RID: no IMDG Marine pollutant: no 14.6 Special precautions for users no data available **15.** REGULATORY INFORMATION This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture no data available 15.2 **Chemical Safety Assessment** no data available OTHER INFORMATION **16.** Text of H-code(s) and R-phrase(s) mentioned in Section 3 Acute toxicity Acute Tox. **EUH014** Reacts violently with water. **EUH019** May form explosive peroxides. EUH066 Repeated exposure may cause skin dryness or cracking. Flammable liquids Flam. Liq. Extremely flammable liquid and vapour. H224 H260 In contact with water releases flammable gases which may ignite spontaneously. Harmful if swallowed. H302 Causes severe skin burns and eye damage. H314 H336 May cause drowsiness or dizziness. Skin Corr. Skin corrosion Specific target organ toxicity - single exposure STOT SE Substances, which in contact with water, emit flammable gases Water-react C Corrosive F Highly flammable R12 Extremely flammable. Reacts violently with water, liberating extremely flammable gases. R14/15R19 May form explosive peroxides. Harmful if swallowed. R22 Causes burns. R34 Repeated exposure may cause skin dryness or cracking. R66 R67 Vapours may cause drowsiness and dizziness. Extremely flammable F+Xn Harmful **Further information** For R&D use only. Not for drug, household or other uses. WARRANTY: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lookchem shall not be held liable www.lookchem.com for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.