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| Effective date: 27-04-2013 | Hy-Labs Cat. No: <u>LD-529</u> | MSDS FORMAT | Replace Doc: NA |
| Doc. No: MSDS-LD-529 | | MATERIAL SAFETY DATA SHEET | |

| 1- Product and Company Identification | |
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| Product Name | R2 AGAR |
| Reference number | LD-529 |
| Manufacturer | Hy-Laboratories Ltd. Park Tamar, Rehovot, 76326, Israel Tel: 972-8-9366475 Fax: 972-8-9366474 |
| 2- Composition, Information on Ingredients | |
| Ingredients Name | Cas # |
| Potassium Phosphate | 7758-11-4 |
| Sodium Pyruvate | 113-24-6 |
| 3- Hazard Specifications | |
| Human health hazards: skin | Yes |
| Human health hazards: ingestion | Yes |
| Human health hazards: inhalation | Yes |
| Health Hazards: (Acute and Chronic) | IRRITANT. Irritating to eyes, skin, and respiratory system. May be harmful if absorbed through the skin or ingested |
| Carcinogenicity | IARC Monographs? No OSHA Regulated? No |
| Signs and Symptoms of Exposure | May cause irritation to the eyes, mucous membranes, and upper respiratory tract. May be harmful if inhaled, symptoms include coughing and shortness of breath. Ingestion can cause dehydration and vomiting. Skin and eye irritation can cause redness and pain |
| Medical Conditions Generally Aggravated by Exposure | The toxicity of phosphates is their ability to sequester calcium. Chronic exposure of phosphates may sequester calcium and cause calcium phosphate deposits in the kidneys and induce systemic phosphorous poisoning. Persons with pre-existing skin disorders or eye problems, impaired liver, kidney, or respiratory function may be more susceptible to this material. Chronic exposure can cause dermatitis |
| 4- First Aid Measures | |
| General Information | Immediately remove contaminated clothing. Show physician product label |
| Ingestion | If swallowed, wash mouth out with water provided person is conscious. Seek medical attention immediately |
| Inhalation | If inhaled, supply fresh air or oxygen. Seek medical attention. If breathing is difficult, give oxygen. In case of unconsciousness, place patient on side position for transportation |
| Eyes contact | Rinse opened eye for at least 15 minutes under running water, lifting lower and upper eyelids occasionally. Seek medical attention |
| Skin contact | Remove contaminated clothing immediately. Wash with plenty of soap and water for at least 15 minutes. Seek medical attention. Wash clothing before reuse |

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| 5- Fire Fighting Measures | |
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| Flash Point (Method Used) | Closed Cup: N/A |
| Flammable Limits | LEL: (Lower Explosive Limit): N/A UEL: (Upper Explosive Limit): N/A |
| Extinguishing Media | Use water spray, Carbon dioxide, dry chemical powder, or appropriate foam |
| Special Fire Fighting Procedures | Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Emits toxic fumes under fire conditions. Firefighters should wear protective equipment and self-contained breathing apparatus |
| Unusual Fire and Explosion Hazards | During heating or in case of fire, poisonous gases are produced. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard |

| 6- Accidental Release Measures | |
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| Personal Precautions | Shut off all sources of ignition, ventilate spill area. Consider need for evacuation. Wear suitable protective clothing, gloves, and eye protection. Avoid inhalation and contact with skin and eyes. Wear self-containing breathing apparatus, rubber boots, and heavy rubber gloves. Place contaminated material in a chemical waste container |
| Environmental Precautions | Prevent dispersion of material. Do not allow to enter drains or water courses |
| Clean-up Methods | Contact safety officer and ventilate area. Absorb spill with inert material, including dry-lime, sand, or soda ash. Place into a chemical waste container using non-sparking tools. Wash spill site after material pickup is complete |

| 7- Handling and Storage | |
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| Handling | Ensure good ventilation / exhaustion and do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not use if skin is cut or scratched |
| Storage | Store at 2-8°C. Keep container tightly closed, protect from light, moist air, and steam. Store away from oxidizing agents. Keep away from heat, sparks, and open flame. Storage area should be cool, dry, and away from incompatible materials. Containers of this material may be hazardous when empty since they retain product residues |

| 8- Exposure Controls, Personal Protection | |
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| OES | N/A |
| ACGIH TLV | N/A |
| Engineering Measures | Do not use compressed air by filling, discharging or handling the product. Proper ventilation, safety shower, and eye bath required. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits |

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| Respiratory Protection | (Specify Type): Respiratory protection is not required. For conditions of use where exposure to dust is apparent, engineering controls are not feasible, or in the event of possible spill / exposure use dusk mask to (US) N95 or type P1 (EN 143) dust masks |
| Ventilation | Local Exhaust: 50 – 100 CFM Mechanical (General): N/A |
| Special | N/A |
| Other | Safety shower and eye bath |
| Protective Gloves | Compatible chemical-resistant gloves |
| Eye Protection | Safety glasses or chemical goggles to EN 166, 167, and 168 |
| Other Protective Clothing or Equipment | Uniform, lab coat, or disposable lab wear |
| Work / Hygienic Practices | Follow the usual precautionary measure for handling chemicals / powder. Keep away from food and beverages. Immediately remove all soiled and contaminated clothing. Avoid contact with eyes, skin, and clothing |

9- Physical and Chemical Properties

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| Boiling Point | N/A |
| Vapor Pressure (mm Hg.) | N/A |
| Vapor Density (AIR = 1) | N/A |
| Specific Gravity | 2.3 g/cm ³ (Potassium Phosphate) |
| Melting Point | >300°C (Sodium Pyruvate) > 465°C (Potassium Phosphate) |
| Solubility in Water | Soluble (Sodium Pyruvate) 150 g/ 100 g cold water (Potassium Phosphate) |
| Appearance and Odor | Light Amber, odorless |

10- Stability and Reactivity

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| Stability | Stable |
| Conditions to Avoid | Moisture, stable under normal conditions |
| Incompatibility (Materials to Avoid) | Acids, alkaloids, lead acetate, strong oxidizing agents, and strong bases |
| Hazardous Decomposition or Byproducts | Carbon monoxide, Carbon dioxide, Nitrogen oxides and Potassium oxides. Thermal decomposition may produce toxic fumes of phosphorus oxides and/or phosphine |
| Hazardous Polymerization | Will Not Occur |
| Conditions to Avoid | Moisture and incompatible materials |

11- Toxicological Information

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| LD50 | SKN-RBT, > 4640 mg/kg (Potassium Phosphate) |
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12- Ecological Information

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| Ecotoxicity Tests | N/A |
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13- Disposal Information

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| Waste Disposal Method | Dispose in accordance with all applicable federal, state, and local environmental regulations. If any questions arise, contact a licensed professional waste disposal service to dispose of this |
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| | material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber |
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| Container Information | Do not remove labels from containers |
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14- Transport Information

Potassium Phosphate, Sodium Pyruvate:*
 UN # --*
 Class: --
 Packing Group: --
 Hazard Class: --
 IATA: Non-Hazardous for Air Transport
 *These substances are considered to be non-hazardous for transport

15- Regulatory Information

EU Regulations - Hazard Symbol(s):
 Potassium Phosphate: Xi (Irritant)
 Sodium Pyruvate: Xi (Irritant)
Risk Phrases:
 Potassium Phosphate: R 36 / 37 / 38, Irritating to eyes, respiratory system, and skin.
Safety Phrases:
 Potassium Phosphate: S 22 / 24 / 25, Avoid contact with skin and eyes. Do not breathe dust

16- Other Information

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