



MATERIAL SAFETY DATA SHEET

Section I – Product Information

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|----------------------------------|------------------------------|----------------------------|-----------------------|
| Product Name or Identity: | Urea Agar Base | | |
| Manufacturer's Name: | Acumedia Manufacturers, Inc. | Emergency Phone No. | 517/372-9200 |
| | 740 East Shiawassee | Fax No.: | 517/372-2006 |
| | Lansing, Michigan 48912 | e-mail: | foodsafety@neogen.com |
| Date Prepared or Revised: | 10/10/04 | | |

Section II – Hazardous Ingredients / Identity Information

| Hazardous Components: (Specific Chemical Identity: Common Names) | OSHA PEL (Permissible Exposure Limits) | ACGIH TLV (Threshold Limit Value) | Toxicity Data LD₅₀ |
|--|--|---|--------------------------------------|
| Sodium Chloride, NaCl, Common salt | N/A | N/A | ORL-RAT, 3000 mg/kg |
| Potassium Phosphate | N/A | N/A | SKN-RBT, > 4640 mg/kg |
| Urea, Isourea | N/A | 10 mg/m ³ (8-hr TWA) | ORL-RAT, 8471 mg/kg |

Section III – Physical Characteristics

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| Boiling Point: 1413°C (Sodium Chloride) | Specific Gravity (H ₂ O = 1): 2.16 g/cm ³ (Sodium Chloride) 1.32 (Urea) |
| Vapor Pressure (mm Hg.): 1.0 @ 865°C (Sodium Chloride) | Melting Point: 804°C (Sodium Chloride), 135°C (Urea) > 465°C (Potassium Phosphate) |
| Vapor Density (AIR = 1): N/A | Evaporation Rate (Butyl Acetate = 1): N/A |
| Solubility in Water: 35.7 g/100g at 0°C (Sodium Chloride), Very soluble in water (Urea) 150 g/ 100 g cold water (Potassium Phosphate) | |
| Appearance and Odor: Colorless crystals or white powder. Characteristic odor. (Sodium Chloride) White crystals or white powder, develops odor of ammonia. (Urea), White crystals or powder, odorless (Potassium Phosphate). | |

Section IV – Fire and Explosion Hazard Data

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| Flash Point (Method Used): Not applicable | Flammable Limits: LEL (Lower Explosive Limit) - N/A UEL (Upper Explosive Limit) - N/A |
| Extinguishing Media: Suitable extinguishing agents. CO ₂ , extinguishing powder, or water spray. | |
| Special Fire Fighting Procedures: Fight larger fires with water or alcohol resistant foam. 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. Reaction with incompatibles may pose an explosion hazard. | |

Section V – Reactivity Data

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| Stability: | Unstable | | Conditions to Avoid: Protect from moisture and light. Hygroscopic. |
| | Stable | X | |
| Incompatibility (Materials to Avoid): Reacts with acids, alkalis, oxidizing agents, Lithium, and Bromine trifluoride. Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride. It is incompatible with sodium nitrite, gallium perchlorate, phosphorus pentachloride, titanium tetrachloride and chromyl chloride. | | | |
| Hazardous Decomposition or Byproducts: When heated to above 801°C it emits toxic fumes of chloride and sodium oxide. Urea decomposes upon heating and can form products including ammonia, oxides of nitrogen, phosphorus oxides, cyanuric acid, cyanic acid, biuret, and carbon dioxide. | | | |
| Hazardous Polymerization: | May Occur | | Conditions to Avoid: Incompatible materials. |
| | Will Not Occur | X | |

| Section VI – Health Hazard Data | | | |
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| Route(s) of Entry: | Inhalation? Yes | Skin? Yes | Ingestion? Yes |
| Health Hazards: (Acute and Chronic) | Harmful. Urea can be harmful if swallowed or inhaled. Irritating to eyes, respiratory system, and skin. Irritant to mucous membrane. | | |
| Carcinogenicity: | NTP? No (National Toxicology Program) | IARC Monographs? No (International Agency for Research in Cancer) | OSHA Regulated? No |
| Signs and Symptoms of Exposure: Can cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath. May be absorbed into the bloodstream with symptoms similar to ingestion. mucous membranes. Irritating effect to eye. Ingestion of Urea can cause nausea, vomiting, and diarrhea. May also include headache, confusion and electrolyte depletion. | | | |
| Medical Conditions Generally Aggravated by Exposure: A study of 67 workers in an environment with high airborne concentrations of Urea found a high incidence of protein metabolism disturbances, moderate emphysema, and chronic weight loss. Supersensitive individuals with skin or eye problems, kidney impairment or asthmatic condition should have physician's' approval before exposure to Urea dust. 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. | | | |
| Emergency / First Aid Procedures: | Ingestion: If swallowed, seek medical attention immediately. | | |
| | Inhalation: Supply fresh air or oxygen. Seek medical attention. | | |
| | Eye Contact: Rinse opened eye for at least 15 minutes under running water. Seek medical attention. | | |
| | Skin Contact: Wash with plenty of soap and water for at least 15 minutes. Seek medical attention. | | |

| Section VII – Precautions for Safe Handling and Use |
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| Accidental Release Measures: Ventilate area of leak or spill. Wear suitable protective clothing. Wipe up with damp sponge or mop. Remove contaminated clothing. |
| Waste Disposal Method: Dispose in accordance with all applicable federal, state, and local environmental regulations. |
| Handling and Storing: Keep container tightly closed. Protect from moisture. Suitable for any general chemical storage area. Store away from incompatible materials. |
| Other Precautions: Prevent formation of dust. Ensure good ventilation / exhaustion at the workplace. Containers of this material may be hazardous when empty since they retain product residues. Avoid prolonged or repeated exposure. |

| Section VIII – Control Measures | | |
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| Respiratory Protection (Specify Type): None required where adequate ventilation conditions exist. If airborne concentration is high, use an appropriate respirator or dust mask. | | |
| Ventilation: | Local Exhaust: 50 – 100 CFM | Special: N/A |
| | Mechanical (General): N/A | Other: N/A |
| Protective Gloves: Proper disposable gloves | | Eye Protection: Chemical resistant safety goggles |
| Other Protective Clothing or Equipment: Uniform, lab coat, or disposable lab wear. | | |
| Work / Hygienic Practices: Follow the usual precautionary measures for handling chemicals / powder. Keep away from food and beverages. Immediately remove all soiled and contaminated clothing. Avoid contact with eyes, skin, and clothing. | | |

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