



MATERIAL SAFETY DATA SHEET

Section 1. Company Identification and Product Information

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|----------------------------------|--------------------------------|-----------------------------|-----------------------|
| Product Name or Identity: | Campylobacter Enrichment Broth | | |
| Manufacturer's Name: | Acumedia Manufacturers, Inc. | Emergency Phone No.: | 517/372-9200 |
| | 740 East Shiawassee | Fax No.: | 517/372-0108 |
| | Lansing, Michigan 48912 | e-mail: | foodsafety@neogen.com |
| Date Prepared or Revised: | January 2008 | | |

Section 2. Composition / Information on Hazardous Ingredients

| Hazardous Components Specific Chemical Identity: | CAS-No. | % | EG-Number | Hazard Symbol |
|---|-----------|-------|-----------|------------------|
| Sodium Chloride, NaCl | 7647-14-5 | 18.1% | 231-598-3 | Xi (Irritant) |
| Sodium Pyruvate, Pyruvic acid sodium salt | 113-24-6 | 1.8% | 204-024-4 | Xi (Irritant) |
| α -Ketoglutaric Acid | 328-50-7 | 3.6% | 206-330-3 | Xi (Irritant) |
| Sodium Metabisulfite | 7681-57-4 | 1.8% | 231-673-0 | Xn (Harmful) |
| Sodium Carbonate | 497-19-8 | 2.2% | N/A | Xi (Irritant) |

Section 3. Health Hazard Identification

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|---|---|-----------|--------------------|
| Route(s) of Entry: | Inhalation? Yes | Skin? Yes | Ingestion? Yes |
| Health Hazards: (Acute and Chronic) | HARMFUL. May be harmful if swallowed or inhaled. Irritating to eyes, respiratory system, and skin. May cause allergic respiratory reaction. Sodium Carbonate may cause eye burns. | | |
| Carcinogenicity: | IARC Monographs? Group 3 (Sodium Metabisulfite) The agent is not classifiable as to carcinogenicity in humans. (International Agency for Research in Cancer) | | OSHA Regulated? No |
| Signs and Symptoms of Exposure: Symptoms of ingestion can include nausea and vomiting. Sodium Carbonate can result in eye burns, conjunctival edema and corneal destruction. Some individuals are sensitive to minute amounts of sulfites. Symptoms may include broncho-constriction, shock, gastrointestinal disturbances, and tingling sensations. | | | |
| Medical Conditions Generally Aggravated by Exposure: Prolonged contact with skin can cause redness, dermatitis, and blisters. May be harmful if inhaled, causing respiratory tract irritation. Repeated exposure may cause allergic reactions in certain sensitive individuals. | | | |

Section 4. First Aid Measures

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| Emergency / First Aid Procedures: | Ingestion: If swallowed, wash out mouth with water, provided person is conscious. Never give anything by mouth to an unconscious person. Seek medical attention. |
| | Inhalation: If inhaled, supply fresh air or oxygen. Seek medical attention. If not breathing, apply artificial respiration. If breathing is difficult, give oxygen. |
| | Eye 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. |

Section 5. Fire and Explosion Hazard Data

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| Flash Point (Method Used): N/A | Flammable Limits: LEL – N/A, UEL – N/A |
| Extinguishing Media: Use alcohol foam, dry chemical, or carbon dioxide. | |
| Special Fire Fighting Procedures: Firefighters should wear protective equipment and self-contained breathing apparatus. As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source. | |
| 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. | |

Section 6. Accidental Release Measures

Personal Precautions: Shut off all sources of ignition, ventilate spill area. Wear suitable protective clothing, gloves, and eye protection. Wear self-containing breathing apparatus, rubber boots, and heavy rubber gloves. Place contaminated material in a chemical waste container.

Environmental Precautions: Do not allow to enter drains or water courses. Water runoff can cause environmental damage.

Clean-up Methods: Contact safety officer and ventilate area. Absorb spill with inert material, including dry-lime, sand, or soda ash, then place into a chemical waste container using non-sparking tools. Wash spill site.

Section 7. Handling and Storage

Handling: Protect against physical damage. Ensure good ventilation / exhaustion. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not use if skin is cut or scratched.

Storage: Keep container tightly closed. Keep away from incompatible material. Storage area should be cool, dry and well ventilated. Containers of this material may be hazardous when empty since they retain product residues.

Other Precautions: Remove contaminated clothing immediately. Ensure good ventilation. Prevent dust formation.

Section 8. Exposure Controls / Personal Protection

OSHA: TWA 5 mg/m³ (Sodium Metabisulfite)

ACGIH TLV: N/A

Engineering Measures: Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Proper ventilation, safety shower, and eye bath required.

Respiratory Protection (Specify Type): With sufficient ventilation, breathing apparatus is not necessary. In the event of possible spill / exposure, use dust mask to EN 149 FFP2S.

Ventilation: Local Exhaust: 50 – 100 CFM

Special: Safety shower and eye wash.

Protective Gloves: Chemical-resistant gloves.

Eye Protection: Safety glasses/chemical goggles to EN 166, 167, & 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.

Section 9. Physical and Chemical Properties

Boiling Point: 1461°C (NaCl)

Specific Gravity: 2.16 g/cm³ (NaCl), 2.53 g/cm³ (Sod Carbonate)
1.48 g/cm³ (Sodium Metabisulfite)

Vapor Pressure: 1 mm at 865°C (NaCl)

Melting Point: 804°C (NaCl), 300°C (Sod Pyruvate), 851°C (Sod Carbonate)
200 - 300°C (Sodium Metabisulfite), 114°C (α-Ketoglutaric acid)

Vapor Density (AIR = 1): N/A

Solubility in Water: Partly Soluble (NaCl), Soluble (Sodium Pyruvate)
Soluble (Sodium Carbonate), 650 g/L at 20°C (Sodium Metabisulfite)

Appearance and Odor: Solid, colorless or white, odorless (NaCl), White powder, odorless (Sodium Pyruvate)

White powder (Sodium Carbonate), Colorless powder, pungent (Sodium Metabisulfite), White, fine crystals (α-Ketoglutaric acid).

Section 10. Stability and Reactivity

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| Stability: | Unstable | | Conditions to Avoid: Stable under recommended storage conditions. Avoid excessive heat and moisture. Sodium Metabisulfite gradually decomposes in air to sulfate, generating sulfurous acid gas. Hygroscopic. |
| | Stable | X | |

Incompatibility (Materials to Avoid): Incompatible with strong oxidizing agents, strong acids, bases, and reducing agents. Sodium Carbonate reacts violently with acids to form CO₂.

Hazardous Decomposition or Byproducts: Carbon oxides, Sodium / Sodium oxide, Sulfur oxides, and Hydrogen chloride gas.

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| Hazardous Polymerization: | May Occur | | Conditions to Avoid: Incompatible materials and heat. |
| | Will Not Occur | X | |

**Section 11. Toxicological Information**

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| LD₅₀: ORL-RAT, 3000 mg/kg (Sodium Chloride) | LD₅₀: ORL-RAT, 4090 mg/kg, Investigated as a mutagen, reproductive effector. (Sodium Carbonate) |
| LD₅₀: ORL-RAT, >2000 mg/kg (Sodium Metabisulfite) | |

Section 12. Ecological Information

Ecotoxicity Tests: LC₅₀/ 96 hours, 1,294.6 mg/L, *Lepomis macrochirus* (Bluegill) (Sodium Chloride)
LC₅₀/ 96 hours, 300 mg/L, *Lepomis macrochirus* (Bluegill) (Sodium Carbonate)
LC₅₀/ 96 hours, 150 – 220 mg/L, *Oncorhynchus mykiss* (Rainbow trout) (Sodium Metabisulfite)

Section 13. Disposal Considerations

Waste Disposal Method: Dispose in accordance with all applicable federal, state, and local environmental regulations. Keep waste separate. Contact a licensed professional waste disposal service to dispose of this material if questions arise. Do not allow product to reach ground water, water bodies, or sewage system.

Container Information: Do not remove labels from containers until they have been cleaned.

Section 14. Transport Information

Sodium Chloride, Sodium Pyruvate, Sodium Carbonate, Sodium Metabisulfite, α -Ketoglutaric acid:*

UN # --

Packing Group: --

Hazard Class: --

IATA: Non-Hazardous for air transport

*These chemicals are not regulated for transportation and considered non-hazardous for transportation.

Section 15. Regulatory Information

EU Regulations, Hazard Symbol(s):

Sodium Chloride, Sodium Pyruvate, Sodium Carbonate, α -Ketoglutaric Acid: Xi (Irritant)

Sodium Metabisulfite: Xn (Harmful)

Risk Phrases:

Sodium Chloride: R 36 / 38, Irritating to eyes and skin.

Sodium Carbonate: R 36, Irritating to eyes.

Sodium Metabisulfite: R 22 / 31 / 41, Harmful if swallowed. Contact with acids liberates toxic gas. Risk of serious damage to eyes.

α -Ketoglutaric Acid: R 37 / 38 / 41, Irritating to respiratory system and skin. Risk of serious damage to eyes.

Safety Phrases:

Sodium Chloride: S 24 / 25 / 26, Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Sodium Carbonate: S 22 / 26, Do not breathe dust. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Sodium Metabisulfite: S 26 / 39 / 46, In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection. If swallowed, seek medical advice immediately and show this container or label.

α -Ketoglutaric Acid: S 26 / 39, In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection.

Section 16. Other Information

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