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Material Safety Data Sheet

1. Product Identification

Product Name : **Calcium Kit (OCPC Method)**
Catalog Number : CAL 010 / CAL 011/ CAL 012

2. Composition / Information on Hazardous Ingredients

Chemical Name	CAS #	% W/V	Exposure Limits in Air					
			ACGIH		OSHA		OTHER	
			TLV	STEL	PEL	STEL		

Reagent 1: Buffer Reagent

NA								

Reagent 2: Colour Reagent

Hydrochloric acid	7647-01-0	0.28%	N/A	5 ppm C	N/A	5ppm C	NIOSH REL 5ppm C

Reagent 3: Calcium Standard

Sodium Azide	26628-22-8	0.28%	N / A	0.29 mg/m ³	N / A	N / A	NIOSH 0.3 mg/m ³ C (skin)

Reagent 4: N/A

Reagent 5: N/A

3. Hazard Identification

Primary Routes of Entry:

Inhalations, ingestion, skin and / or eye contact.

Inhalation:

Sodium azide:Inhalation of vapors may cause headache, nausea, dizziness, fatigue, cyanosis, weakness in arms and legs. **Hydrochloric acid:** Inhalation of vapors may cause pulmonary edema, circulatory systems collapse, damage to upper respiratory system, coughing, and difficult breathing.

Ingestion:

Sodium Azide: Ingestion may cause nausea, vomiting, headache, dizziness, gastrointestinal irritation, blurred vision, lowering of blood pressure. **Hydrochloric Acid:** Ingestion is harmful and may be fatal. Ingestion may cause severe burning to mouth and stomach, nausea and vomiting.

Skin Contact:

Sodium Azide: Contact with the skin, may develop mild irritation. Sodium Azide may enter body through skin. **Hydrochloric Acid:** Contact with the skin may cause severe burns.

Eye Contact:

Sodium Azide: Contact with the eyes, may develop mild irritation. **Hydrochloric Acid:** Liquid may cause severe burns to eyes. Can penetrate deeply causing irritation or severe burns depending on the concentration and duration of exposure.

Chronic Exposure:

Hydrochloric Acid: long term exposure to vapors may cause pulmonary edema and damage to upper respiratory systems.

Medical Conditions Aggravated by Exposure:

Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.

Health Effects:

The vapours or liquid can rapidly injure exposed tissue, cause skin and eye damage, and irritate mucous membranes and the respiratory tract. Health hazards given on this data sheet apply to concentrated solutions of Hydrochloric acid. Hazards of dilute solutions may be reduced, depending upon the concentration.

4. First Aid Measures**Inhalation:**

If breathing becomes difficult, remove victim to fresh air. Seek medical attention immediately.

Ingestion:

Get medical attention if there has been ingestion of this product.

Skin Contact:

Avoid skin contact. If skin contact occurs, remove contaminated clothing and wash exposed skin with water for atleast 15 minutes. Get medical attention immediately.

Eye Contact:

Immediately flush eye(s) with large volume of water for atleast 15 minutes, occasionally lifting the lower lids. Get medical attention immediately.

5. Fire Fighting Measures

Flash Point (Method used): N/A **Flammable Limits – LEL:** N/A **UEL:** N/A

Extinguishing Media:

Use fire extinguishing media appropriate for site conditions.

Special Fire Procedures:

Structural firefighting gear and self-contained breathing apparatus will provide adequate protection if this product is in a fire area.

Unusual Fire and Explosion Hazards:

Sodium azide can react with copper, lead, brass, or solder in plumbing to form explosive compounds of lead azide and copper azide. Sodium azide can react with acids to form explosive hydrogen azide.

6. Accidental Release Measures**Steps to be taken in case material is Released or Spilled:**

PPE should be level D: lab gloves, chemical resistant apron, boots and splash goggles. Use an absorbent material to contain / pick up the spilled solution. Place all spill residues into a suitable container, seal, label and hold for disposal.

7. Handling and Storage

Refer to packet insert for additional information on handling and storage procedures.

8. Exposure Controls and Personal Protection

Ventilation Data:

A system of local and / or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

Respiratory Protection:

Respiratory protection is not required under normal use of this product. If respiratory protection is needed, follow OSHA respirator regulations (29CFR1910.134) and, if necessary, wear a NIOSH approved respirator. Select respirator based on its suitability to provide worker protection for given working conditions, level of airborne concentration, and presence of sufficient oxygen.

Protective Gloves:

Wear appropriate protective gloves to prevent skin contact. Replace torn or punctured gloves promptly.

Other Protective Equipment:

Wear appropriate eye protection to prevent eye contact. Wear appropriate body protection to prevent skin contact.

Other Engineering Controls:

Eye wash stations and deluge showers.

Work Practices:

Good laboratory technique should be used when handling this product. Observe appropriate chemical hygiene. Avoid contact with eyes or skin. Do not place in mouth.

Hygienic Practices:

Do not eat, drink, or smoke while working with product. Upon completion of work activities involving this product, wash hands thoroughly with soap and water.

9. Physical And Chemical Properties

For All Components Unless Otherwise Indicated

Relative Vapour density(air = 1) :	N/A	Evaporation rate(nBuAc = 1):	N/A
Specific Gravity (water = 1) :	N/A	Freezing / Melting Point :	N/A
Solubility in Water :	Soluble	Boiling Point :	N/A
Vapour Pressure, mm Hg @ 20oC:	N/A	pH :	Acidic

Odour and Appearance Information

Reagent 1: Clear, colorless liquid

Reagent 2: Pale yellow liquid

Reagent 3: Clear, colorless liquid

Reagent 4: N/A.

Reagent 5: N/A.

10. Stability and Reactivity

Incompatibility (Materials to Avoid):

Strong bases, strong acids, and water reactive materials.

Hazardous Decomposition Products:

Thermal decomposition may produce carbon monoxide and carbon dioxide.

Will Hazardous Polymerization Occur?

Hazardous polymerization will not occur.

Conditions to Avoid / Polymerization: NA

Is the Product Stable?

Yes, under normal handling and storage conditions.

Conditions to Avoid/stability

Sodium Azide: Avoid acidification of solution, which may generate hydrogen cyanide gas. **Hydrochloric Acid:** Heat and moisture.

11. Toxicological Information

Toxicity Data:

Sodium Azide(Undiluted): LD50(rat and mouse, oral)=27mg/kg; LD50(rabbit, skin)=20mg/kg.

Hydrochloric acid: eye irritancy (rabbit)-1% solution/20sec., corneal scarring; Eye irritancy (rabbit)= 5mg/30sec, mild; eye irritancy (rabbit)=100mg/rinse, mild; skin irritancy(rabbit)=0.5ml/17% solution/4hours, corrosive burns.

Reproductive effects:

N/A.

Target organ Effects:

Sodium Azide: Eyes, Skin, central nervous systems, cardiovascular systems. **Hydrochloric Acid:** Eyes, Skin and Respiratory system. Sodium Hydroxide: Eyes, Skin and Respiratory system.

Carcinogenicity: No

CHEMICAL NAME	CAS #	% W/V	NTP Carcinogen		IARC	OSHA
			Known	Anticipated		
N/A.						

12. Ecological Information

Environmental Fate / Stability:

N/A

Effect of Material on plants or animals:

N/A

Effect of Chemical on Aquatic Life:

N/A

13. Disposal Considerations

EPA Waste Number and Proper Waste Disposal Method:

Please consult local, state and federal regulations for additional guidance on disposal.

14. Transportation Information

Is this Material Hazardous? Not regulated under transportation regulations.

Proper Shipping Name : N/A	Packing Group: N/A	UN Number: N/A
Hazard Class Number : N/A		

15. Regulatory Information

NA.

16. Other Information

NA => NOT APPLICABLE or NO INFORMATION