Material Safety Data Sheet
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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Code: SiSiB PC7130
Product Name: Methyl tris-(butanone oxime) Silane
                Methyl Oximino Silane
                Methyl tris-(methyl ethyl ketoxime) Silane
Produce Use: Industrial chemical
Manufacturer / Supplier: Power Chemical Corporation.
Post / Physical Address: #117, Guanghua Road, Nanjing 210007, P.R.China
Emergency Telephone Number: +86-25-8468-0091

2. COMPOSITION INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT NAME</th>
<th>CAS NUMBER</th>
<th>WEIGHT (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl Oximino Silane</td>
<td>22984-54-9</td>
<td>≥95</td>
</tr>
<tr>
<td>Methyl Ethyl Ketoxime</td>
<td>96-29-7</td>
<td>≤1.0</td>
</tr>
</tbody>
</table>
Trace impurities and additional material names are not listed

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
Material is a clear colorless liquid with a mild ethereal odor. It is irritating to the skin, eyes and respiratory system and may cause allergic skin reaction. Determined to be of low to moderate oral toxicity.

POTENTIAL HEALTH HAZARDS:
SKIN: Causing irritation and may cause allergic skin reaction. Material may be absorbed through the skin leading to effects similar to ingestion and inhalation.
EYES: Liquid contact causes irritation and may cause burns if not promptly remove by first-aid measures.
INHALATION: Inhalation of mist of vapor may irritate respiratory system. Vapors from decomposition or exposure to atmosphere moisture may produce reversible narcotic effect. Over exposure may cause come and respiratory diseases.
INGESTION: Low to moderate oral toxicity. Ingestion may produce blood effects, reducing the blood’s ability to transport oxygen (methemoglobinemia and anemia). Reversible narcotic effects may occur.
DELAYED EFFECTS:
Male rats and rabbits exposed to methyl ethyl ketoxime throughout their lifetimes developed liver tumors. Since many commonly used chemicals cause liver tumors on rats and rabbits. Moreover, rest additionally the small amount of methyl ethyl ketoxime
to determine any relevance to humans.
No considered variability based on laboratory tests.

4. FIRST AID MEASURES

SKIN:
Immediately flush with large quantities of water for at least 15 minutes. Get immediate medical attention.

EYES:
Immediately flush with water, continuing for at least 15 minutes. Get immediate medical attention.

INHALATION:
Remove to fresh air. If breathing has stopped, apply artificial respiration. If breathing is difficult, give oxygen provided a qualified operator is available. Get immediate attention.

INGESTION:
If conscious, give two or four glassed of water or milk and induce vomiting by touching finger to back of throat. Get immediate medical attention.

FLASH POINT: >142°F (61°C) <199°F (93°C)
FLASH POINT METHOD: Closed Cup
FLAMMABILITY CLASS: Combustible liquid
EXTINGUISHING MEDIA: Use carbon dioxide, dry chemicals

FIRE FIGHTING PRECAUTIONS:
Wear self-contained breathing apparatus with full face piece and protective clothing to pervert contact with skin and eyes. Use water spray to cool external part of containers to pervert material spill or other release.

6. ACCIDENTAL RELEASE MEASURES

Thermal decomposition or contact with water would be expected to produce methyl ethyl ketoxime. Eliminate sources of light. Provide proper ventilation to air. If there is spill, absorb with inert material and place in an approved waste chemical container. For large spills, conduce with inert material and pump into same container. Do not allow pump to overheat. Do not allow material to enter into sewers or waterways.

7. HANDLING AND STORAGE

HANDLING:
Keep away from heat and open flame. Do not expose to water. Avoid contact with skin and eyes. Transfer using a closed system or equipment able to dispose exhaust.
STORAGE RECOMMENDATION:

Store in a cool, dry place far from heat, strong acids and oxidizers. Protect from physical damage. Keep upright and rightly closed. Do not expose to moisture.

8. DISCHARGE CONTROL AND PERSONAL PROTECTION:

MECHANICAL CONTROL: Use mechanical ventilation.

PERSONAL PROTECTION:

Skin Protection: Avoid skin contact by wearing long-sleeve shirt, gloves and trousers for routine product handling. Use impervious clothing if liquid contact is possible.

Eye Protection: Operate at ventilating place. If there is possibility to inhale its vapor, use gas mask with inhalation equipment. The usage of inhalation equipment is decided on contamination degree and conditions of work place. If the anti-gas substance gets ineffective, change in immediately.

DISCHARGE DATA:

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>ACGLH TIV</th>
<th>OSHA PEL</th>
<th>OTHER LIMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl Ethyl Ketoxime</td>
<td>None</td>
<td>None</td>
<td>3ppm(TWA)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10ppm(STEL)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10ppm(TMA)</td>
</tr>
</tbody>
</table>

9. PHYSICAL AND CHEMICAL PROPERTIES

APPAREANCE: Clear, colorless

PHYSICAL STATE: Liquid

CHEMICAL FORMULA: C_{13}H_{27}N_{3}O_{3}Si

MOLECULAR WEIGHT: 301

ODOR: Mild ethereal odor

SPECIFIC GRAVITY: (water=1.0) 0.982g/ml

SOLUBILITY IN WATER: React with water

BOILING POINT: 590°F (310°C)

MELTING POINT: -7.6°F (-22°C)

VAPOR PRESSURE: 4.0mmHG 302°F (150°C)

FLASH POINT: >142°F (61°C) <199°F (93°C)

10. STABILITY AND REACTIVITY

NORMALLY STABLE? (CONDITIONS TO AVOID):

Stable under normal conditions. Do not expose to moisture, acid, oxidizers and metals such as iron. Do not heat above 212°F (100°C).

INCOMPATIBILITIES:
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Water, iron, acids. Can react violently if in contact with electrophiles, such as ferric chloride.

HAZARDOUS DECOMPOSITION PRODUCTS:

Reaction with water will release methyl ethyl ketoxime (MEKO). Thermal decomposition expected to produce methyl ethyl ketone (MEK), SiO2, NOx, CO, CO2 and possible MEKO.

HAZARDOUS POLYMERIZATION:

May occur. Avoid exposure to water, strong acids and heat treatment, especially in the presence of iron.

11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:

Acute Oral (rat) LD50 = 2 - 3 ml/kg

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:

Component and decomposition product Methyl Ethyl Ketoxime (MEKO):

In a subchronic oral toxicity animal study, methyl ethyl ketoxime produced an adverse effect upon red blood cells (anemia). This was found for all dose levels tested. In an acute dermal animal study, 200 mg/kg caused mild hematologic (blood) effects. No effects were seen at 20 mg/kg.

Liver carcinomas were observed in a lifetime inhalation study in which mice and rats were exposed to MEKO 6 hrs/day, 5 days/week for 18 months and 26 months, respectively. These carcinomas were statistically increased in males at a MEKO concentration of 375 ppm. In addition, degenerative effects on the olfactory epithelium of the nasal passages occurred in a concentration related manner in males and females of both species at MEKO concentration of 15, 75, and 375 ppm. The effects at 15 ppm were minimal. The effect at all concentrations was limited to the olfactory tissue situated in the anterior dorsal region of the nasal cavity. Large areas of olfactory epithelium laterally and posteriorly were not affected. A subsequent subchronic inhalation stud in mice found the effect after one week of exposure at 30 ppm (6 hrs/day; 5 days/week) but no increase in incidence or severity occurred with increasing exposure duration up to 13 weeks. Evidence of recovery was found after cessation of exposure. The no-effect level was 3 ppm.

MEKO is not considered mutagenic based on several in vitro and in vivo studies.

OTHER DATA:

None
12. ECOLOGICAL EFFECTS

Material will react with water, releasing MEKO which has been determined to be biodegradable and has a static 96 hour LC50 of 48 mg/L (bluegill) and a 48 hour EC50 of 750 mg/L (daphnia).

13. DISPOSAL CONSIDERATIONS

RCRA

Is the unused product a RCRA hazardous waste if discarded?

No.

If yes, the RCRA ID number is:

Not applicable.

OTHER DISPOSAL CONSIDERATIONS:

Disposer must comply with Federal, State and Local disposal or discharge laws. Dispose of as other combustible liquids. Incineration recommended.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

14. TRANSPORT INFORMATION

US DOT HAZARD CLASS:

Not regulated for non-bulk shipment.

Combustible Liquid, PG III (bulk shipment only)

US DOT ID NUMBER:

None required for non-bulk shipment.

NA 1993 (bulk shipment only).

15. REGULATORY INFORMATION

TSCA INVENTORY STATUS:

Listed on the TSCA Inventory

WHMIS CLASSIFICATION (CANADA):

Not determined.

INVENTORY STATUS:

This product is on the following inventories:

EINECS.

Canadian DSL.

Australian.
16. OTHER INFORMATION

It must be recognized that the physical and chemical properties of any product may not be fully understood and that new, possibly hazardous products may arise from reactions between chemicals. The information given in this data sheet is based on our present knowledge and shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.