SECTION 1            PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:  Manganese (IV) Oxide
PRODUCT NUMBER:  2534
CAS NUMBER:  1313-13-9
SYNONYMS:  Manganese dioxide, Manganese superoxide, Manganese peroxide, Black manganese oxide, Manganese black
MANUFACTURER:  Prochem, Inc.

826 Roosevelt Road
Rockford, IL 61109

PHONE:  815-398-1788
FAX:  815-398-1810
TOLL FREE:  800-795-8788

IN CASE OF TRANSPORTATION EMERGENCY CONTACT CHEM-TREC:  1-800-424-9300

SECTION 2           HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram

Signal Word

Warning

Hazard Statements

H302+H332  Harmful if swallowed or if inhaled.

Precautionary Phrases

P261  Avoid breathing dust/fume/gas/mist/vapors/spray.
P270  Do not eat, drink, or smoke when using this product.
P301+P312+P330  IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
P304+P340+P312  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

HMIS CLASSIFICATION:
Health: 2  Chronic: *  Fire: 0  Reactivity Hazard: 0

NFPA RATING:
Health: 2  Flammability: 0  Reactivity Hazard: 0

EYE CONTACT:  May cause eye irritation.
SKIN CONTACT:  Toxic if inhaled. Causes respiratory tract irritation.
INHALATION:  May be harmful if absorbed through skin. Causes skin irritation.
INGESTION:  Harmful if swallowed.
SECTION 3  COMPOSITION / INFORMATION ON INGREDIENTS

Formula: MnO₂

Molecular Weight: 86.94

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS#</th>
<th>%</th>
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<td>Manganese (IV) Oxide</td>
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</table>

SECTION 4  FIRST AID MEASURES

EYE EXPOSURE: Immediately flush the eyes with copious amounts of water for at least 15 minutes. Assure flushing under eyelids. A victim may need assistance in keeping their eyelids open. Get immediate competent medical attention.

SKIN EXPOSURE: Wash affected area with plenty of water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

INHALATION: Remove to fresh air and keep at rest. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases, seek immediate medical assistance.

INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention if necessary.

SECTION 5  FIREFIGHTING MEASURES

FLASH POINT: Product is not flammable
AUTO IGNITION TEMPERATURE: Not available
EXPLOSION LIMITS: Not available
EXTINGUISHING MEDIUM: Use fire fighting measures that suit the surrounding fire.
SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: None

SECTION 6  ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear all appropriate equipment when using this material. Ensure adequate ventilation. Avoid breathing dust and dust formation.
ENVIRONMENTAL PRECAUTIONS: Prevent spillage from entering drains or allowing to be released into the environment.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Without creating dust, sweep up and place in suitable container for proper disposal.

SECTION 7  HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Wear appropriate personal protective equipment. Ensure adequate ventilation. Avoid contact with skin and eyes. The potential for combustible dust formation should be taken into consideration before processing occurs.
CONDITIONS FOR SAFE STORAGE: Store in cool, dry, and well-ventilated area.

SECTION 8  EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS:

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limits</th>
<th>Basis</th>
<th>Entity</th>
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<tr>
<td>Manganese (IV) Oxide</td>
<td>5 mg/m³</td>
<td>CEIL</td>
<td>OSHA</td>
</tr>
<tr>
<td></td>
<td>0.2 mg/m³</td>
<td>TLV</td>
<td>ACGIH</td>
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<td></td>
<td>1 mg/m³</td>
<td>REL</td>
<td>NIOSH</td>
</tr>
<tr>
<td></td>
<td>3 mg/m³</td>
<td>STEL</td>
<td>NIOSH</td>
</tr>
</tbody>
</table>

TLV: Threshold Limit Value over 8 hours of work.
CEIL: Ceiling
REL: Recommended Exposure Limit
STEL: Short Term Exposure Limit during x minutes.

EYE PROTECTION: Wear chemical safety glasses or goggles and face shield.
SKIN PROTECTION: Wear nitrile or rubber gloves, and a complete suit protecting against chemicals.
VENTILATION: Provide local exhaust, preferably mechanical.
RESPIRATOR: Use an approved respirator.
SECTION 9  PHYSICAL AND CHEMICAL PROPERTIES

COLOR AND FORM: Brown-black solid
ODOR: None
MOLECULAR WEIGHT: 86.94
BOILING POINT: No data available
MELTING POINT: 535° C (dec.)
SPECIFIC GRAVITY: 5.026 gm/ml
VAPOR DENSITY: No data available
SOLUBILITY: Insoluble

SECTION 10  STABILITY AND REACTIVITY

STABILITY: Stable
HAZARDOUS POLYMERIZATION: Will not occur
CONDITIONS TO AVOID: Not available
INCOMPATIBILITY: Strong acids, strong reducing agents, and organic materials.
DECOMPOSITION PRODUCTS: None

SECTION 11  TOXICOLOGICAL DATA

ACUTE TOXICITY: LD50 Oral – rat > 3,478mg/kg.
CARCINOGENIC EFFECTS: No components of this product present at levels greater than or equal to 0.1% are considered to be a human carcinogen.
MUTAGENIC EFFECTS: Not available
TETRATOGENIC EFFECTS: Not available
CHRONIC TOXICITY: May cause damage to the blood, nervous system, liver, and central nervous system.
RTECS: OP0350000

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

SECTION 12  ECOLOGICAL DATA

No information available

SECTION 13  DISPOSAL CONSIDERATIONS

Dispose of in accordance to local, state, and federal regulations.

SECTION 14  TRANSPORTATION DATA

Not a dangerous good

SECTION 15  REGULATORY INFORMATION

TSCA: Listed
SARA 302/304: Not Listed
SARA 311/312: Manganese (IV) Oxide
SARA (TITLE 313): Manganese (IV) Oxide
CALIFORNIA PROP. 65: Not Listed
MASSACHUSETTS RIGHT TO KNOW COMPONENTS: No components are subject to the Massachusetts Right to Know Act.
NEW JERSEY RIGHT TO KNOW COMPONENTS: Manganese (IV) Oxide
PENNSYLVANIA RIGHT TO KNOW COMPONENTS: Manganese (IV) Oxide
SECTION 16 OTHER INFORMATION

DISCLAIMER: The information herein is believed to be accurate and reliable as of the date compiled. However, Prochem, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information in this document or any use of the product based on the information.

DATE PREPARED: 03/15
SDS DEPT.