SECTION 1  PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:  Gadolinium Vanadate
PRODUCT NUMBER:  1849
MANUFACTURER:  Prochem, Inc.

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

826 Roosevelt Road
Rockford, IL  61109

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

SECTION 2  HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>Signal Word</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Danger</td>
</tr>
</tbody>
</table>

Hazard Statements

<table>
<thead>
<tr>
<th>Hazard Statement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H301</td>
<td>Toxic if swallowed.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
</tbody>
</table>

Precautionary Phrases

<table>
<thead>
<tr>
<th>Precautionary Phrase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P261</td>
<td>Avoid breathing dust/fume/gas/mist/vapors/spray.</td>
</tr>
<tr>
<td>P264</td>
<td>Wash skin thoroughly after handling.</td>
</tr>
<tr>
<td>P270</td>
<td>Do not eat, drink, or smoke when using this product.</td>
</tr>
<tr>
<td>P271</td>
<td>Use only outdoors or in a well-ventilated area.</td>
</tr>
<tr>
<td>P280</td>
<td>Wear protective gloves/protective clothing/eye protection/face protection.</td>
</tr>
<tr>
<td>P301+P312+P330</td>
<td>IF SWALLOWED: Call a POISON CENTER or doctor/physician. Rinse mouth.</td>
</tr>
<tr>
<td>P302+P352</td>
<td>IF ON SKIN: Wash with plenty of soap and water.</td>
</tr>
<tr>
<td>P304+P340+P312</td>
<td>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.</td>
</tr>
<tr>
<td>P305+P351+P338</td>
<td>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.</td>
</tr>
<tr>
<td>P362</td>
<td>Take off contaminated clothing and wash before reuse.</td>
</tr>
<tr>
<td>P403+P233</td>
<td>Store in a well-ventilated place. Keep container tightly closed.</td>
</tr>
</tbody>
</table>

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

NFPA RATING:
Health: 2  Flammability: 0  Reactivity Hazard: 0
SECTION 2  HAZARDS IDENTIFICATION (Cont.)

EYE CONTACT: Causes serious eye irritation.
SKIN CONTACT: Causes skin irritation.
INHALATION: May cause respiratory irritation.
INGESTION: Toxic if swallowed.

SECTION 3  COMPOSITION / INFORMATION ON INGREDIENTS

Formula: GdVO₄
Molecular Weight: 272.19

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gadolinium Vanadate</td>
<td>-</td>
<td>100</td>
</tr>
</tbody>
</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 water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.
INHALATION: Remove to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
INGESTION: Seek medical attention.

SECTION 5  FIREFIGHTING MEASURES

FLASH POINT: Not applicable
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: Gadolinium oxide and vanadium oxides

SECTION 6  ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear all appropriate equipment when using this material. Ensure adequate ventilation. Avoid the formation of dust. Avoid breathing vapors, mist, gas, or dust.
ENVIRONMENTAL PRECAUTIONS: Prevent spillage from entering drains or allowing to be released into the environment.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Sweep up and place in a suitable container for proper disposal.

SECTION 7  HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Wear appropriate personal protective equipment. Avoid contact with skin and eyes. Use with adequate ventilation. Avoid formation of dusts and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.
CONDITIONS FOR SAFE STORAGE: Store in cool, dry, and well-ventilated area. Hygroscopic. Keep in a dry place.
SECTION 8  EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS: Contains a substance with occupational exposure limit values.
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.
ADDITIONAL PROTECTION: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

SECTION 9  PHYSICAL AND CHEMICAL PROPERTIES

COLOR AND FORM: Brown powder
ODOR: None
MOLECULAR WEIGHT: 272.19
BOILING POINT: No data available
MELTING POINT: No data available
SPECIFIC GRAVITY: No data available
VAPOR DENSITY: No data available
SOLUBILITY: Insoluble

SECTION 10  STABILITY AND REACTIVITY

STABILITY: Stable
HAZARDOUS POLYMERIZATION: Will not occur
CONDITIONS TO AVOID: No data
INCOMPATIBILITY: Strong oxidizing agents.
DECOMPOSITION PRODUCTS: Gadolinium oxide and vanadium oxides

SECTION 11  TOXICOLOGICAL DATA

ACUTE TOXICITY: No data available
CARCINOGENIC EFFECTS: No components of this product present at levels greater than or equal to 0.1% is identified a carcinogen.
MUTAGENIC EFFECTS: Not available
TETRATOGENIC EFFECTS: Not available
CHRONIC TOXICITY: Not available
RTECS: Not available

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 according to local, state, and federal regulations.
SECTION 14  TRANSPORTATION DATA

UN3285
Vanadium compound, n.o.s.
(Gadolinium vanadate)
CLASS 6.1
PG III

Marine Pollutant: No

SECTION 15  REGULATORY INFORMATION

SARA 302/304: Not Listed
SARA 311/312: Acute Health Hazard
SARA (TITLE 313): Gadolinium vanadate
CALIFORNIA PROP. 65: Not Listed
WHMIS CANADA: Not Listed
MASSACHUSETTS RIGHT TO KNOW COMPONENTS: No components are subject to the Massachusetts Right to Know Act.
NEW JERSEY RIGHT TO KNOW COMPONENTS: Gadolinium vanadate
PENNSYLVANIA RIGHT TO KNOW COMPONENTS: Gadolinium vanadate

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: 06/15
SDS DEPT.