1. PRODUCT AND COMPANY IDENTIFICATION

Product Description: STEELSHIELD 6299

Recommended use: Corrosion inhibitor

For use in industrial installations only.

Emergency Telephone Number

In Canada, call CANUTEC (24 Hours) 1-613-996-6666
In the USA, call CHEMTREC (24 Hours) 1-800-424-9300
Outside the USA, call CHEMTREC (24 Hours) 1-703-527-3887

Manufacturer / Supplier

D. A. Stuart Company
4580 Weaver Parkway
Warrenville, Illinois, 60555
U.S.A.
1-630-393-0833 (non-emergency)

D. A. Stuart, Inc.
43 Upton Road
Scarborough, Ontario, M1L 2C1
Canada
1-416-757-3226 (non-emergency)

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component materials considered hazardous per national or state/provincial regulatory bodies:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum distillates, hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
<td>60 - 100</td>
</tr>
<tr>
<td>Odorless Mineral Spirits</td>
<td>8052-41-3</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Phenol, 2, 6-Bis(1,1-dimethylethyl)-4-methyl</td>
<td>128-37-0</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>

See Sections 8 and 11 for information on exposure limits and controls. Contains severely-refined mineral oil. See Section 8 for information about oil mists.

3. HAZARDS IDENTIFICATION

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. The D. A. Stuart Company encourages and expects you to read the entire MSDS, and consult appropriate expertise as necessary, to become aware of and fully understand the information contained in this MSDS and of any hazards associated with the product.

CAUTION

Emergency Overview

May cause eye/skin irritation
May cause irritation of respiratory tract
May be harmful if swallowed

Potential Health Effects

Principle Routes of Exposure

Eye contact, Skin contact, Inhalation, Ingestion.
Acute Effects

**Eyes**
Contact with eyes may cause irritation.

**Skin**
May cause skin irritation and/or dermatitis.

**Inhalation**
Inhalation of vapours in high concentration may cause irritation of respiratory system.

**Ingestion**
May be harmful if swallowed. Aspiration hazard if swallowed.

Chronic Effects
Dermatitis. Repeated or prolonged exposure above the NIOSH recommended exposure level (see Section 8) may result in, or aggravation of, upper respiratory irritation, bronchitis, or asthma.

Target Organs
No information available

Aggravated Medical Conditions
Skin disorders. Respiratory disorders.

See Section 11 for additional Toxicological information.

Interactions with Other Chemicals
No information available

Potential Environmental Effects
See Section 12 for additional Ecological information

---

4. FIRST AID MEASURES

**General Advice**
Use Universal Precautions. Avoid contact with all unknown materials while aiding victim.

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

**Skin Contact**
Wash off with warm water and soap. If skin irritation persists, call a physician.

**Inhalation**
Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.

**Ingestion**
Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. If symptoms persist, call a physician.

**Notes to Physician**
Show this safety data sheet to the doctor in attendance. Treat symptomatically.

---

5. FIRE-FIGHTING MEASURES

**WHMIS Flammable Properties**
Product is combustible. Does not meet WHMS criteria to be controlled as a flammable/combustible material.

**Uniform Fire Code**
Combustible Liquid: III-B

**Suitable Extinguishing Media**
Carbon dioxide (CO2). Foam. Dry chemical.

**Unsuitable Extinguishing Media**
Do not use a solid water stream as it may scatter and spread fire.

**Hazardous Combustion Products**
Carbon monoxide, Carbon dioxide (CO2), Hydrogen Sulfide, Sulfur Oxides.

**Lower Flammability Limit in Air**
No information available
Upper Flammability Limit in Air  No information available
Autoignition Temperature  No information available
Impact sensitivity  No
Sensitivity to static discharge  Static Accumulator
Specific Hazards Arising from the Chemical  Thermal decomposition can lead to release of irritating gases and vapours.

Protective Equipment and Precautions for Firefighters  Standard procedure for chemical fires. Wear self-contained breathing apparatus and protective suit.

NFPA Graphic

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions  Avoid contact with the skin and the eyes. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment.

Environmental Precautions  Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.

Methods for Containment  Dam up. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Avoid run off to waterways and sewers. Do not flush into surface water or sanitary sewer system.

Methods for Cleaning Up  Soak up with inert absorbent material. Prevent product from entering drains. Sweep up and shovel into suitable containers for disposal. Keep in suitable and closed containers for disposal.

7. HANDLING AND STORAGE

Handling  Keep away from open flames, hot surfaces and sources of ignition. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure adequate ventilation. Wash off with warm water and soap. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Do not take clothing home to be laundered. Use only in area provided with appropriate exhaust ventilation.

Storage  Store in accordance with local regulations. Keep in properly labelled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep in an area equipped with sprinklers. Do not freeze.
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>Ontario TWAEV</th>
<th>Mexico OEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odorless Mineral Spirits</td>
<td>TWA: 100 ppm</td>
<td>TWA: 100 ppm</td>
<td>TWA: 525 mg/m³</td>
<td>TWA: 523 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA: 300 ppm</td>
<td>TWA: 100 ppm</td>
<td></td>
<td>TWA: 100 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 500 ppm</td>
<td>TWA: 100 ppm</td>
<td></td>
<td>TWA: 100 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 2900 mg/m³</td>
<td>TWA: 100 ppm</td>
<td></td>
<td>TWA: 100 ppm</td>
</tr>
<tr>
<td>Phenol, 2, 6-Bis(1,1-dimethylethyl)-4-methyl</td>
<td>TWA: 2 mg/m³</td>
<td>TWA: 10 mg/m³</td>
<td>TWA: 2 mg/m³</td>
<td>TWA: 10 mg/m³</td>
</tr>
</tbody>
</table>

Other Exposure Guidelines

If oil mists are generated, the following exposure limits apply:
ACGIH STEL 10 mg/m³, TWA: 5 mg/m³ and OSHA PEL 5 mg/m³.

The National Institute of Occupational Safety and Health (NIOSH) has established a Recommended Exposure Level (REL) of 0.5 mg/m³, total particulate mass, as a time-weighted average for up to 10 hr/day during a 40-hr week, for metalworking fluid mists.

Note: Personal protective equipment (PPE) requirements are related to conditions of use, which cannot be suitably predicted by the product manufacturer. Determination of necessary PPE is the responsibility of the employer/user, based on assessment and knowledge of the employer's processes and environment. In every circumstance of chemical exposure, the employer shall limit employee exposures first by implementing effective engineering controls, and second by implementing administrative controls. PPE shall be used diligently by employees when engineering and administrative controls do not fully prevent chemical exposure.

Engineering Measures
Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment
Ask supervisor or safety specialist for handling instructions

General Hygiene Considerations
Handle in accordance with good industrial hygiene and safety practice

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear
Color Amber
Physical State Liquid
Odor Characteristic
Odor Threshold No information available
pH No data available
Flash Point 174°C / 345°F
Method Cleveland Open Cup
Boiling Point/Range No information available
Melting Point/Range No information available
Explosive Properties No information available
Evaporation Rate No data available
Vapour Pressure No information available
Vapour Density Heavier than air
Specific Gravity 0.911
Molecular Weight No data available
Water Solubility Insoluble
Partition Coefficient (water/oil) No data available
10. STABILITY AND REACTIVITY

Chemical Stability
Stable under normal conditions. Hazardous polymerization does not occur.

Conditions to Avoid
Keep away from open flames, hot surfaces and sources of ignition.

Incompatible Products
Strong oxidizing agents.

Hazardous Decomposition Products
None under normal use

Possibility of Hazardous Reactions
None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information:

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum distillates, hydrotreated heavy naphthenic</td>
<td>5000 mg/kg (Rat)</td>
<td>2000 mg/kg (Rabbit)</td>
<td>2.18 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>Phenol, 2, 6-Bis(1,1-dimethylethyl)-4-methyl</td>
<td>890 mg/kg (Rat)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LD50 Oral: No information available
LD50 Dermal: No information available
LC50 Inhalation: No information available

Chronic Toxicity

Product Information:

Carcinogenicity
There are no known carcinogenic chemicals in this product.

Mutagenic Effects
No information available

Reproductive Effects
No information available

Developmental Effects
No information available

Teratogenicity
No information available

Synergistic Products
No information available

Target Organs
No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity
<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum distillates, hydrotreated heavy naphthenic</td>
<td>LC50 &gt; 5000 mg/L Pimephales promelas 96 h</td>
<td></td>
<td></td>
<td>ECS50 &gt; 1000 mg/L 48 h</td>
</tr>
<tr>
<td>Phenol, 2, 6-Bis(1,1-dimethylethyl)-4-methyl</td>
<td>EC50 = 6 mg/L 72 h</td>
<td></td>
<td></td>
<td>EC50 = 7.82 mg/L 5 min EC50 = 8.57 mg/L 15 min EC50 = 8.98 mg/L 30 min</td>
</tr>
</tbody>
</table>

Persistence and Degradability  No information available
Bioaccumulation  No information available
Mobility in Environmental Media  No information available

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol, 2, 6-Bis(1,1-dimethylethyl)-4-methyl</td>
<td>4.17</td>
</tr>
</tbody>
</table>

Marine Pollutant  NO

### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods**  Dispose of in accordance with local regulations
**Contaminated Packaging**  Empty containers should be taken for local recycling, recovery or waste disposal
**US EPA Waste Number**  No information available

### 14. TRANSPORT INFORMATION

**DOT**  Not regulated
**TDG**  Not regulated
**Mexico**  Not regulated
**ICAO/IATA**  Not regulated
**IMDG/IMO**  Not regulated

### 15. REGULATORY INFORMATION

**U.S. Federal Regulations**

**OSHA Regulatory Status**  This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)
SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA): This product does not contain any chemicals which are subject to the reporting requirements of the Act and and Title 40(n) of the Code of Federal Regulations, Part 372.

SARA 311/312
Hazardous Categorization

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

State Right-to-Know Information

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odorless Mineral Spirits</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Phenol, 2, 6-Bis(1,1-dimethylethyl)-4-methyl</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Other International Regulations

Mexico

Mexico - Grade
Slight risk, Grade 1

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
D2B Toxic materials causing other effects

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL / NDSL</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Complies</td>
</tr>
<tr>
<td>ENCS</td>
<td>Not determined/Information not available</td>
</tr>
<tr>
<td>CHINA</td>
<td>Complies</td>
</tr>
</tbody>
</table>
16. OTHER INFORMATION

| Health Hazard | 1 |
| Fire Hazard   | 1 |
| Reactivity    | 0 |

HMIS® ratings involve data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.


Prepared By
HS&E Department, D. A. Stuart, Warrenville (1-630-393-8514) hse@dastuart.net
Preparation Date 12-Feb-2008 08935
Revision Date 21-Oct-2008
Revision Number 1
Reason for revision No information available

This MSDS is intended to meet the specific requirements of 29 CFR 1910.1200 (U.S.A.), Hazardous Products Act and Controlled Product Regulations (Canada), NOM 018 STPS 2000 (Mexico), and ANSI Z400.1-2004, and should be used accordingly. While the information has been obtained from sources believed to be accurate and reliable, no warranty, expressed or implied, can be made with regard to its completeness, correctness or accuracy. It is offered for your consideration, investigation and verification. The information presented here pertains only to the product as shipped. Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product. Since conditions for use of the product are not under control of the manufacturer, it is the buyer’s/user’s duty to determine the conditions necessary for the safe use of the product. Final determination of suitability of any material is the sole responsibility of the user. Any users or handlers of this product who are not under the direct control of D. A. Stuart Company are responsible for evaluating this information in light of their particular situation, and are responsible for all losses, damages or expenses that result while this material is under their control. It is also the responsibility of the users and handlers to observe any and all laws and regulations (federal, state, provincial, and local) concerning the transportation, use, handling, storage, and disposal of this product.

End of MSDS