1. PRODUCT AND COMPANY INFORMATION

Identification of the substance/preparation: X400
Use of the substance/preparation: Sludge remover for central heating systems

Company Identification: Sentinel Performance Solutions Ltd.
Manufactured by: Douglas Products and Packaging
Address and Telephone No.: 1550 East Old 210 Highway, Liberty, Missouri, 64068, USA
Telephone for further information: (816)-781-4250 (8am - 5pm)
Emergency Phone No.: Chemtrec (800) 424-9300 (24/7)
Fax: (816)-781-1043

2. HAZARDS IDENTIFICATION

Emergency Overview
Appearance and odour:
- Appearance: Yellow to brown liquid
- Odour: Mild odour

This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Statements of Hazard
None

Potential Health Effects
Primary routes of entry by skin or eye contact.

Eye contact - prolonged or repeated exposure may cause transient irritation. Skin contact - prolonged or repeated exposure may cause transient irritation. Inhalation - prolonged or repeated exposure may cause transient irritation. Ingestion of large amounts may cause slight gastrointestinal irritation.
3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical description
Neutral solution of synthetic organic polymer.

Hazardous component(s)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>EC Number</th>
<th>%</th>
<th>Symbol</th>
<th>Risk Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>No hazardous ingredients above 1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

Inhalation
Remove patient to fresh air, allow to rest and keep warm. Seek medical attention if symptoms develop.

Skin contact
Wash with plenty of water. Remove any contaminated clothing and launder before reuse. Seek medical attention if symptoms develop.

Eye contact
Flush immediately with plenty of water for at least 15 minutes, keeping eyelids open. Seek medical attention if symptoms develop.

Ingestion
DO NOT induce vomiting! Rinse mouth out with water, but do not give anything to drink. Seek medical attention if symptoms develop.

Personal precautions
Ensure that those giving first aid treatment do not get contaminated by product spills, etc. Wear suitable protective clothing, gloves and eye protection. See also Section 8.

5. FIRE-FIGHTING MEASURES

- Suitable
  Water, foam, carbon dioxide, dry powder.

- Not to be used
  None.

Special exposure hazards
Oxides of carbon, nitrogen and sulphur evolved in fire.

Special protective equipment for fire fighters
Protective clothing and self-contained breathing apparatus.

Flash point
Not flammable.
6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear suitable protective clothing, gloves and eye protection. See Section 8 for details. Keep unnecessary personnel away.

Environmental precautions
Prevent from entering sewers or the immediate environment. In case of large spill, inform local authorities.

Methods for cleaning up
- on soil
  Absorb onto inert material such as earth, soil or specialist absorbent. Collect and place into sealed container for safe disposal (see Section 13).

- on water
  None known.

7. HANDLING AND STORAGE

Handling
Avoid contact with skin and eyes. Do not ingest or inhale vapours or spray.

Storage
Keep in original containers. Keep container tightly closed. Store in cool, well ventilated area. Protect from freezing and from high temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Recommended engineering controls
Ensure good ventilation. Arrange for eye wash possibility.

Control parameters:
None set.

Monitoring procedures
Not required.

Personal protection
Always check applicability with your supplier of protective equipment.

- Respiratory protection
  In case of insufficient ventilation, wear full face or half face mask fitted with filter suitable for liquid particulates.

- Skin protection
  Laboratory coat or overalls if splashing or repeated contact with product is likely.

- Eye protection
  Chemical goggles or full face visor.

- Hand protection
  Plastic, impervious gloves for protection against unintentional short-term contact. However, since glove performance is governed by many variables, it is strongly recommend that specialist advice on the selection and use of protective gloves is sought.
9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Yellow to brown liquid
Odour: Mild
pH (concentrated product): 6.6
Melting point (°C): Approx 0 [32°F]
Boiling point/range (°C): Approx 100 [212°F]
Flash point (Pensky Martens) (°C): Not flammable
Explosive properties: None
Oxidising properties: None
Density at 20°C (kg/m³): 1033
Solubility in water (% by weight): Completely miscible
Viscosity at 20°C (mPas): 10
Relative vapour density (air=1): < 1
Evaporation rate (ether=1): < 1

Note: These are typical values and do not constitute a specification.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of use.
Conditions to avoid: Protect from freezing.
Materials to avoid: None known.
Hazardous decomposition products: Oxides of carbon, nitrogen and sulphur evolved in fire.

11. TOXICOLOGICAL INFORMATION

Test data: No data available on product.
Calculated from ingredient data:
- Oral LD₅₀ rat (mg/kg): > 30,000
- Dermal LD₅₀, rabbit (mg/kg): > 14,000

Exposure hazard:
- Inhalation: Prolonged or repeated exposure may cause transient irritation.
- Skin contact: Prolonged or repeated exposure may cause transient irritation.
- Eye contact: Prolonged or repeated exposure may cause transient irritation.
- Ingestion: Likely symptoms are slight gastrointestinal irritation.
12. ECOLOGICAL INFORMATION

Aquatic toxicity:
- No data available on product.
- Daphnia Magna (mg/l) EC50 48 Hr: >7,000

Environmental effects:
- Not classified as hazardous to the environment under the EU classification system.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

14. TRANSPORTATION INFORMATION

Not classified as dangerous for transport.

15. REGULATORY INFORMATION

The label shows a CAUTION. Keep Away From Children. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water.

Names of the ingredients given on the label: None

R phrases: None.

S phrases: S2, Keep out of the reach of children; S24/25, Avoid contact with skin and eyes; S26, In case of contact with eyes, rinse immediately with plenty of water and seek medical advice; S28, After contact with skin, wash immediately with plenty of water.

Inventory Status
- TSCA: All ingredients of this product are listed unless specifically exempted.
- California Proposition 65: Does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
- EU: All ingredients of this product are listed in EINECS or ELINCS, unless specifically exempted under EU Directive 67/548/EEC (as amended).
Right to know classification: None are listed in CA, PA, MN, MA, MI, FL and NJ.

**Note:** The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions, which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

### 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>Hazardous Material Information (HMIS)</th>
<th>National Fire Protection Association (NFPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>0</td>
</tr>
<tr>
<td>Fire</td>
<td>1</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
</tr>
<tr>
<td>Personal Protection</td>
<td>G</td>
</tr>
</tbody>
</table>

| Health   | 4   | Deadly   | 3 | Extreme Danger | 2 | Dangerous | 1 | Slight hazard | 0 | No hazard |
| Fire     | 4   | < 73 °C   | 3 | < 100 °C       | 2 | < 200 °C   | 1 | >200 °C       | 0 | Will not burn |
| Reactivity/Instability | 4 | May detonate | 3 | Explosive | 2 | Unstable | 1 | Normally stable | 0 | Stable |

EU labelling information

- Symbol(s) | None required
- R-Phrase(s) | None assigned
- S-Phrase(s)
  2 | Keep out of the reach of children
  24/25 | Avoid contact with skin and eyes
  26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
  28 | After contact with skin, wash immediately with plenty of water

Version number 1
Date prepared August 2009
Supersedes Version Not applicable
Nature of revision First issue to OSHA standard.

R-phrases used in Section 3 None

Based on ANSI Z4000.1-2004 and EU Regulation 1907/2006

End of document
Number of pages = 6