SAFETY DATA SHEET

Revision Date 14-Oct-2016  

1. IDENTIFICATION

Product identifier  
Product Name  18E HEAVY DUTY RADIATOR CLEANER  32 FO BO

Other means of identification  
Product Code  80030  
Synonyms  None

Recommended use of the chemical and restrictions on use  
Recommended Use  Liquid cleaner  
Uses advised against  No information available

Details of the supplier of the safety data sheet  
Manufactured and Distributed by:  ITW Permatex  
May Also Be Distributed by:  ITW Permatex Canada  
6875 Parkland Blvd.  35 Brownridge Road, Unit 1  
Solon, OH 44139 USA  Halton Hills, ON Canada L7G 0C6  
Telephone: (800) 924-6994

Company Phone Number  1-87-Permatex  
(877) 376-2839  
24 Hour Emergency Phone Number  Chem-Tel: 800-255-3924  
International Emergency:  00+1+ 813-248-0585  
Contract Number: MIS0003453

E-mail address  mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification  

OSHA Regulatory Status  This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Gases)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Dusts/Mists)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Label elements

Emergency Overview

Danger

Harmful if swallowed or if inhaled  
Causes severe skin burns and eye damage
**Precautionary Statements - Prevention**
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Do not eat, drink or smoke when using this product
Wash face, hands and any exposed skin thoroughly after handling

**Precautionary Statements - Response**
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see supplemental first aid instructions on this label)

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- Immediately call a POISON CENTER or doctor/physician
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse
- 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
- Immediately call a POISON CENTER or doctor/physician
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth
- Do NOT induce vomiting

**Precautionary Statements - Storage**
Store locked up

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**
Not applicable

**Other Information**
- Not applicable

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROCHLORIC ACID</td>
<td>7647-01-0</td>
<td>10-20</td>
<td>*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

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**4. FIRST AID MEASURES**

**Description of first aid measures**

**General advice**
Get medical advice/attention if you feel unwell.
Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Skin contact

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor/physician.

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion

IF SWALLOWED: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms

See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media

None.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required.

Environmental precautions

Environmental precautions

Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological Information.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.
Prevention of secondary hazards  Clean contaminated objects and areas thoroughly observing environmental regulations.

### 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling**  Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Use personal protective equipment as required.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**  Store locked up.

**Incompatible materials**  Strong oxidizing agents, Water, Bases, Reducing agents, Amines, Alkalis

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL (vacated) Ceiling: 5 ppm</th>
<th>OSHA PEL (vacated) Ceiling: 7 mg/m³</th>
<th>NIOSH IDLH Ceiling: 5 ppm</th>
<th>NIOSH IDLH Ceiling: 7 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROCHLORIC ACID 7647-01-0</td>
<td>Ceiling: 2 ppm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*NIOSH IDLH Immediately Dangerous to Life or Health*

**Other Information**  Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls**

**Engineering Controls**  Showers  Eyewash stations  Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**  Wear safety glasses with side shields (or goggles).

**Skin and body protection**  Wear protective natural rubber, nitrile rubber, Neoprene™ or PVC gloves.

**Respiratory protection**  Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

**General Hygiene Considerations**  Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Melting point / freezing point  No information available
Boiling point / boiling range  100-110 °C / 212-230 °F
Flash point  No information available
Evaporation rate  No information available
Flammability (solid, gas)  No information available
Flammability Limit in Air
  Upper flammability limit:  No information available
  Lower flammability limit:  No information available
Vapor pressure  No information available
Vapor density  No information available
Relative density  1.09
Water solubility  Soluble in water
Solubility in other solvents  No information available
Partition coefficient  No information available
Autoignition temperature  No information available
Decomposition temperature  No information available
Kinematic viscosity  No information available
Dynamic viscosity  No information available
Explosive properties  No information available
Oxidizing properties  No information available

Other Information
Softening point  No information available
Molecular weight  No information available
VOC Content (%)  0
Density  No information available
Bulk density  No information available

10. STABILITY AND REACTIVITY

Reactivity
Strong reducing agents
Alkaline salts

Chemical stability
Stable under recommended storage conditions

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Incompatible materials.

Incompatible materials
Strong oxidizing agents, Water, Bases, Reducing agents, Amines, Alkalis

Hazardous Decomposition Products
Hydrogen chloride

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation  Harmful by inhalation.
Eye contact  Corrosive to the eyes and may cause severe damage including blindness.
Skin contact  Contact causes severe skin irritation and possible burns.
Ingestion  Harmful if swallowed. Can burn mouth, throat, and stomach.
Information on toxicological effects

Symptoms
No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
No information available.

Germ cell mutagenicity
No information available.

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROCHLORIC ACID</td>
<td></td>
<td>Group 3</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7647-01-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IARC (International Agency for Research on Cancer)
Not classifiable as a human carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Target Organ Effects
Eyes, Respiratory system, Skin.

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral) 1587 mg/kg
ATEmix (dermal) 33433 mg/kg
ATEmix (inhalation-gas) 3755 mg/l
ATEmix (inhalation-dust/mist) 3.3 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity
0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging
Do not reuse container.

US EPA Waste Number
D002
14. TRANSPORT INFORMATION

DOT
- UN/ID no: NA1760
- Proper shipping name: Compounds, Cleaning, liquid, (Hydrochloric, acid), Limited Quantity (LQ)
- Hazard Class: 8
- Packing Group: II
- Emergency Response Guide Number: 154

IATA
- Proper shipping name: Do not ship by air

IMDG
- Proper shipping name: Do Not Ship

15. REGULATORY INFORMATION

International Inventories
- TSCA: Complies
- DSL/NDSL: Complies
- EINECS/ELINCS: Complies
- ENCS: Complies
- IECSC: Complies
- KECL: Complies
- PICCS: Complies
- AICS: Complies

Legend:
- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROCHLORIC ACID - 7647-01-0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories
- Acute health hazard: Yes
- Chronic Health Hazard: Yes
- Fire hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

CWA (Clean Water Act)
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROCHLORIC ACID 7647-01-0</td>
<td>5000 lb</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>
CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive
Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
</table>
| HYDROCHLORIC ACID 7647-01-0 | 5000 lb | 5000 lb | RQ 5000 lb final RQ
|               |                          |                | RQ 2270 kg final RQ      |

US State Regulations

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

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER 7732-18-5</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>HYDROCHLORIC ACID 7647-01-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

WHMIS Hazard Class
E - Corrosive material

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA Health hazards 3 Flammability 0 Instability 0 -
HMIS Health hazards 3 Flammability 0 Physical hazards 0 Personal protection B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 14-Oct-2016

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the
date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage,
transportation, disposal and release and is not to be considered a warranty or quality specification. The information
relates only to the specific material designated and may not be valid for such material used in combination with any other
materials or in any process, unless specified in the text.

End of Safety Data Sheet