SAFETY DATA SHEET

Revision Date: 22-Nov-2016

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Label Name Quick Heat
Product Generic Name Quick Heat Radiator Additive
Other means of identification
UPC Code(s) 607078402035

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Coolant Additive for Radiator
Uses advised against Follow label instructions. Not recommended for any use except intended use.

Supplier's details

Supplier Address Design Engineering, Inc.
604 Moore Road, Avon Lake, OH 44012

Manufacturer Address Design Engineering, Inc.
604 Moore Road, Avon Lake, OH 44012

Emergency telephone number

Company Phone Number 1-800-264-9472 (M-F 8:30AM - 5:00PM EST)
Company Emergency Phone Number Propharma: 1-800-565-5597 (24 hours)
Emergency telephone Chemtrec (US/CA) 1-800-424-9300 (24 hour)
Poison Control 1-800-222-1222 (24 hour)

2. HAZARDS IDENTIFICATION

Classification

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

Serious eye damage/eye irritation Category 1

GHS Label elements, including precautionary statements

Emergency Overview

Danger

Hazard Statements
Causes serious eye damage
Appearance Viscous liquid Physical state liquid Odor Characteristic

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response
Get medical advice/attention if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Hazards not otherwise classified (HNOC)
Not applicable

Other information
General Hazards No information available

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>ALCOHOLS, C10-16, ETHOXYLATED</td>
<td>68002-97-1</td>
<td>5 - 10</td>
<td></td>
</tr>
<tr>
<td>Sodium carbonate</td>
<td>497-19-8</td>
<td>1 - 5</td>
<td></td>
</tr>
<tr>
<td>Ethyl alcohol</td>
<td>64-17-5</td>
<td>1 - 5</td>
<td></td>
</tr>
</tbody>
</table>

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

4. FIRST AID MEASURES

First aid measures for different exposure routes

General advice For further assistance, contact your local Poison Control Center.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

Skin contact Wash skin with soap and water.

Toxic - Inhalation Not expected.

Ingestion Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. If symptoms persist, call a physician.

Protection of First-aiders Use personal protective equipment.

Most important symptoms/effects, acute and delayed
Main Symptoms
No information available.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media None.

Specific hazards arising from the chemical
No information available.

Hazardous Combustion Products
No information available.

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 Avoid contact with the skin and the eyes.
Advice for emergency responders For personal protection see section 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.
Methods for cleaning up Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling
Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.
Packaging material Keep consumer product in packaging product is initially sold in.
Incompatible products None known based on information supplied.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>STEL: 1000 ppm</td>
<td>TWA: 1000 ppm</td>
<td>TWA: 1900 mg/m³ (vacated) TWA: 1000 ppm</td>
</tr>
<tr>
<td>64-17-5</td>
<td></td>
<td></td>
<td>IDLH: 3300 ppm TWA: 1000 ppm</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Measures
- Showers
- Eyewash stations
- Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection
- Safety glasses with side-shields.

Skin and body protection
- No special protective equipment required.

Respiratory protection
- No special protective equipment required. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Hygiene measures
- Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
<td>Odor</td>
</tr>
<tr>
<td>Appearance</td>
<td>Viscous liquid</td>
<td>Odor threshold</td>
</tr>
<tr>
<td>Color</td>
<td>clear</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Melting point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Flammability Limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.039</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Soluble in water</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>500 mPa s</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

Other information

Softening point
- No information available
Molecular weight  No information available
VOC Content(%)  No information available
Density  No information available
Bulk Density  No information available

10. STABILITY AND REACTIVITY

Reactivity
Not expected

Chemical stability
Stable under recommended storage conditions.
Possibility of hazardous reactions
None under normal processing.
Hazardous Polymerization  None under normal processing.

Conditions to Avoid
Extremes of temperature and direct sunlight.
Incompatible Materials
None known based on information supplied.
Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information  There is no data available for this product
Toxic - Inhalation  None known.
Eye contact  Irritating to eyes. Severely irritating to eyes.
Skin contact  Prolonged contact may cause redness and irritation.
Ingestion  May be harmful if swallowed.

Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD₅₀ (mg/kg) (Rat)</th>
<th>Dermal LD₅₀</th>
<th>Inhalation LC₅₀ (mg/L) (Rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium carbonate</td>
<td>497-19-8</td>
<td>-</td>
<td>2300 (Rat) 2 h</td>
</tr>
<tr>
<td>Ethyl alcohol</td>
<td>64-17-5</td>
<td>= 7080</td>
<td>124.7 (Rat) 4 h</td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms  No information available.

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

Skin corrosion/irritation  No information available.
Eye damage/irritation  No information available.
Sensitization  No information available.
Germ cell mutagenicity  No information available.
Carcinogenicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>A3</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH: (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP: (National Toxicity Program)
Known - Known Carcinogen

OSHA: (Occupational Safety & Health Administration)

X - Present

Reproductive toxicity  No information available.
Developmental Toxicity  No information available.
STOT - single exposure  No information available.
STOT - repeated exposure  No information available.
Chronic toxicity  Ethanol has been shown to be carcinogenic in long-term studies only when consumed as alcoholic beverage. Ethanol has been shown to be a reproductive toxin only when consumed as an alcoholic beverage.

Aspiration hazard  No information available.

Numerical measures of toxicity - Product Information

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

ATEmix (oral)  9329 mg/kg
ATEmix (dermal)  13763 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium carbonate 497-19-8</td>
<td>120 h Nitzschia mg/L EC50</td>
<td>96h LC50: = 300 mg/L (Lepomis macrochirus) 96h LC50: 310 - 1220 mg/L (Pimephales promelas)</td>
<td>48h EC50: = 265 mg/L</td>
</tr>
<tr>
<td>Ethyl alcohol 64-17-5</td>
<td>12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through</td>
<td>9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50</td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability  No information available.

Bioaccumulation  No information available.

Mobility

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALCOHOLS, C10-16, ETHOXYLATED 68002-97-1</td>
<td>-</td>
</tr>
<tr>
<td>Sodium carbonate 497-19-8</td>
<td>-</td>
</tr>
<tr>
<td>Ethyl alcohol 64-17-5</td>
<td>-0.32</td>
</tr>
</tbody>
</table>

Other adverse effects  No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment

Waste Disposal Methods  Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging  Do not re-use empty containers.

California Hazardous Waste Codes
### 14. TRANSPORT INFORMATION

**DOT**
Not regulated

**IATA**
Not regulated

**IMDG**
Not regulated

### 15. REGULATORY INFORMATION

**International Inventories**

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Complies</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td></td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td></td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td></td>
</tr>
<tr>
<td>ENCS</td>
<td></td>
</tr>
<tr>
<td>IECSC</td>
<td></td>
</tr>
<tr>
<td>KECL</td>
<td></td>
</tr>
<tr>
<td>PICCS</td>
<td></td>
</tr>
<tr>
<td>AICS</td>
<td></td>
</tr>
</tbody>
</table>

**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 Commercial Chemical Substances/EU 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 does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

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

**Clean Water Act**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations**

**California Proposition 65**
This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol - 64-17-5</td>
<td>Carcinogen</td>
</tr>
<tr>
<td></td>
<td>Developmental</td>
</tr>
</tbody>
</table>

Chronic toxicity: Ethanol has been shown to be carcinogenic in long-term studies only when consumed as an alcoholic beverage. Ethanol has been shown to be a reproductive toxin only when consumed as an alcoholic beverage.

**U.S. State Right-to-Know Regulations**
This product contains substances regulated by 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>Ethyl alcohol</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>64-17-5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Sulfate</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7757-82-6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**U.S. EPA Label information**
EPA Pesticide Registration Number: Not applicable

**16. OTHER INFORMATION**

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazard</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health hazard</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Prepared By: Sun Products Corporation
Regulatory Affairs
Revision Date: 22-Nov-2016
Revision Note: No information available

**Disclaimer**
The (M)SDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material. The information contained here has been compiled from sources considered by Sun Products Corporation to be dependable and is accurate to the best of the Company's knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations.

This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment. Sun Products Corporation assumes no responsibility for injury to the recipient of third persons, or for any damage to any property resulting from misuse of the product.

**End of Material Safety Data Sheet**