Thermal Charge XL NOAT 50/50 Prediluted Antifreeze and Coolant
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision date: 03/13/2017

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product form: Mixture
Product name: Thermal Charge XL NOAT 50/50 Prediluted Antifreeze and Coolant

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Heat transfer fluid

1.3. Details of the supplier of the safety data sheet
Old World Industries, LLC
4065 Commercial Ave.
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number
Emergency number: (800) 424-9300; (703) 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
GHS-US classification
Acute toxicity (oral), Category 4: H302
Reproductive toxicity, Category 2: H361
Specific target organ toxicity — Repeated exposure, Category 2: H373

Full text of H statements: see section 16

2.2. Label elements
GHS-US labelling
Hazard pictograms (GHS-US):

Signal word (GHS-US): Warning
Hazard statements (GHS-US):
H302 - Harmful if swallowed
H361 - Suspected of damaging fertility or the unborn child
H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure (oral)

Precautionary statements (GHS-US):
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe mist, spray, vapors
P264 - Wash affected areas thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear personal protective equipment as required
P301+P310 - If swallowed: Immediately call doctor/physician or poison center
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P308+P313 - If exposed or concerned: Get medical advice/attention
P405 - Store locked up
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations

2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS US)
No data available
# Thermal Charge XL NOAT 50/50 Prediluted Antifreeze and Coolant

## Safety Data Sheet

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>% by wt</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethylene glycol</td>
<td>(CAS No) 107-21-1</td>
<td>&lt;= 50</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td>water</td>
<td>(CAS No) 7732-18-5</td>
<td>&lt; 50</td>
<td>Not classified</td>
</tr>
<tr>
<td>diethylene glycol</td>
<td>(CAS No) 111-46-6</td>
<td>&lt; 3</td>
<td>Acute Tox. 4 (Oral), H302 STOT RE 2, H373</td>
</tr>
<tr>
<td>potassium 2-ethylhexanoate</td>
<td>(CAS No) 3164-85-0</td>
<td>&lt; 2</td>
<td>Repr. 2, H361</td>
</tr>
<tr>
<td>denatonium benzoate</td>
<td>(CAS No) 3734-33-6</td>
<td>30 - 50 ppm</td>
<td>Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319 STOT SE 3, H335</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements : see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

**First-aid measures general**: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

**First-aid measures after inhalation**: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If you feel unwell, seek medical advice.

**First-aid measures after skin contact**: Remove contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Rinse immediately with plenty of water (for at least 15 minutes). Get medical advice/attention.

**First-aid measures after eye contact**: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water for 15 minutes, lifting lower and upper lids. If eye irritation persists: Get medical advice.

**First-aid measures after ingestion**: Obtain emergency medical attention. Rinse mouth. If the person is fully conscious, make him/her drink two glasses of water. Never give an unconscious person anything to drink. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you feel unwell. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whiskey. For children, give proportionally less liquor, according to weight.

#### 4.2. Most important symptoms and effects, both acute and delayed

**Symptoms/injuries**: Causes damage to organs (kidneys) Oral. Suspected of damaging fertility or the unborn child.

**Symptoms/injuries after skin contact**: Causes skin irritation.

**Symptoms/injuries after eye contact**: Causes serious eye damage.

**Symptoms/injuries after ingestion**: Swallowing a small quantity of this material will result in serious health hazard. The lethal dose in humans is estimated to be 100 mL (3 oz).

#### 4.3. Indication of any immediate medical attention and special treatment needed

A more effective intravenous antidote for physician uses is 4-methylpyrazole, a potent inhibitor of alcohol dehydrogenases, which effectively blocks the formation of toxic metabolites of ethylene glycol. It has been used to decrease the metabolic consequences of ethylene glycol poisoning before metabolic acidosis coma, seizures, and renal failure have occured.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media


**Unsuitable extinguishing media**: Do not use a heavy water stream. May spread fire.

#### 5.2. Special hazards arising from the substance or mixture

**Fire hazard**: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

**Reactivity**: No dangerous reactions known under normal conditions of use.

#### 5.3. Advice for firefighters

**Firefighting instructions**: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.
Special protective equipment for fire fighters: Wear positive pressure self-contained breathing apparatus (SCBA). Protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment: Equip cleanup crew with proper protection. Refer to section 8.2. Emergency procedures: Ventilate area.

6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Store away from other materials.

6.4. Reference to other sections
For further information refer to section 13. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
Hygiene measures: Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep only in the original container in a cool, well ventilated place away from: Heat sources. Keep container closed when not in use. Product may become solid at temperatures below -37 °C (-34 °F). Do not store near food, foodstuffs, drugs or potable water supplies. Do not cut, drill, weld, use a blowtorch on, etc. containers even when empty.
Incompatible products: Keep away from strong acids, strong bases and oxidizing agents.
Incompatible materials: Sources of ignition.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
ethylene glycol (107-21-1)

<table>
<thead>
<tr>
<th></th>
<th>ACGIH TWA (mg/m³)</th>
<th>10 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>Remark (ACGIH)</td>
<td>Upper Respiratory Tract (URT) &amp; Eye irritant</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls
No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Avoid all unnecessary exposure. Gloves. Safety glasses.

Hand protection:
Wear protective gloves

Eye protection:
Chemical goggles or safety glasses

Respiratory protection:

Respiratory protection not required in normal conditions. If exposed to levels above exposure limits wear appropriate respiratory protection.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Red</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>8.2 - 9</td>
</tr>
<tr>
<td>Reserve Alkalinity</td>
<td>2.75 - 4 ml</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>Nil</td>
</tr>
<tr>
<td>Freezing point</td>
<td>-37 °C (-34 ºF)</td>
</tr>
<tr>
<td>Boiling point</td>
<td>107 °C (224 ºF)</td>
</tr>
<tr>
<td>Flash point</td>
<td>None. Percentage of water is greater than 20%.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>&lt; 0.1 mm Hg @ 20 ºC</td>
</tr>
<tr>
<td>Relative vapor density at 20 ºC</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.07 - 1.08</td>
</tr>
<tr>
<td>Density</td>
<td>1.07 - 1.08 kg/l (8.9 - 9.0 lbs/gal)</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: Complete</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

9.2. Other information

VOC content : 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.
10.4. Conditions to avoid
Extremely high or low temperatures. Keep away from any flames or sparking source.

10.5. Incompatible materials
Keep away from strong acids, strong bases and oxidizing agents.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity
: Oral: Harmful if swallowed.

**denatonium benzoate (3734-33-6)**
- LD50 oral rat: 584.00 mg/kg (Rat; Literature study)
- LD50 dermal rabbit: > 2,000.00 mg/kg (Rabbit; Literature study)
- ATE US (oral): 584.00 mg/kg bodyweight

**ethylene glycol (107-21-1)**
- LD50 oral rat: > 5,000.00 mg/kg (Rat; Literature study)
- ATE US (oral): 500.00 mg/kg bodyweight

**diethylene glycol (111-46-6)**
- LD50 dermal rabbit: 11,890.00 mg/kg (Rabbit)
- ATE US (oral): 500.00 mg/kg bodyweight
- ATE US (dermal): 11,890.00 mg/kg bodyweight

Skin corrosion/irritation
: Not classified
  pH: 8.2 - 9

Serious eye damage/irritation
: Not classified
  pH: 8.2 - 9

Respiratory or skin sensitisation
: Not classified

Germ cell mutagenicity
: Not classified

Carcinogenicity
: Not classified

Reproductive toxicity
: Suspected of damaging fertility or the unborn child.

Specific target organ toxicity (single exposure)
: Not classified

Specific target organ toxicity (repeated exposure)
: May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

Aspiration hazard
: Not classified

Potential adverse human health effects and symptoms
: Based on available data, the classification criteria are not met.

Symptoms/injuries after skin contact
: Causes skin irritation.

Symptoms/injuries after eye contact
: Causes serious eye damage.

Symptoms/injuries after ingestion
: Swallowing a small quantity of this material will result in serious health hazard. The lethal dose in humans is estimated to be 100 mL (3 oz).

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general
: No additional information available.

12.2. Persistence and degradability
denatonium benzoate (3734-33-6)
Persistence and degradability
Biodegradability in water: no data available. No (test) data on mobility of the substance available.

ethylene glycol (107-21-1)
Persistence and degradability
Readily biodegradable in water. Biodegradable in the soil.
Biochemical oxygen demand (BOD) 0.47 g O₂/g substance
Chemical oxygen demand (COD) 1.24 g O₂/g substance
ThOD 1.29 g O₂/g substance
BOD (% of ThOD) 0.36

diethylene glycol (111-46-6)
Persistence and degradability
Biochemical oxygen demand (BOD) 0.02 g O₂/g substance
Chemical oxygen demand (COD) 1.51 g O₂/g substance
ThOD 1.51 g O₂/g substance
BOD (% of ThOD) 0.02

12.3. Bioaccumulative potential
denatonium benzoate (3734-33-6)
Log Pow 1.78 (Estimated value)
Bioaccumulative potential Low potential for bioaccumulation (Log Kow < 4).
ethylene glycol (107-21-1)
BCF fish 1 10.00 (BCF; 72 h)
BCF other aquatic organisms 1 0.21 - 0.6 (BCF)
BCF other aquatic organisms 2 190.00 (BCF; 24 h)
Log Pow -1.34 (Experimental value)
Bioaccumulative potential Low potential for bioaccumulation (BCF < 500).
diethylene glycol (111-46-6)
Bioaccumulative potential Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil
ethylene glycol (107-21-1)
Surface tension 0.05 N/m (20 °C / 68 °F)
diethylene glycol (111-46-6)
Surface tension 0.05 N/m
Log Koc Koc SRC PCKOCWIN v1.66; 1; Calculated value; log Koc; SRC PCKOCWIN v1.66; 0; Calculated value

12.5. Other adverse effects
Effect on ozone layer : No known effect on the ozone layer
Effect on global warming : No known effects from this product.
Other information : Avoid release to the environment.

SECTION 13: Disposal considerations
13.1. Waste treatment methods
Product/Packaging disposal recommendations : Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.
Ecology - waste materials : Avoid release to the environment.
SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT

Transport document description : UN3082 Environmentally hazardous substances, liquid, n.o.s., 9, III
UN-No.(DOT) : UN3082
Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s.
Class (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Packing group (DOT) : III - Minor Danger
Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241
DOT Symbols : G - Identifies PSN requiring a technical name
DOT Packaging Exceptions (49 CFR 173.xxx) : 155
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : No limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No limit
DOT Vessel Stowage Location : A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.

Other information : Non Bulk: Not regulated by the US D.O.T. (in quantities under 5,000 lbs in any one inner package).

TDG
Refer to current TDG Canada for further Canadian regulations

Transport by sea
Proper Shipping Name (IMDG) : Not regulated by IMDG (in quantities under 5,000 lbs in any one inner package)

Air transport
Proper Shipping Name (IATA) : Not regulated by IATA (in quantities under 5,000 lbs in any one inner package)

SECTION 15: Regulatory information

15.1 US Federal regulations

Thermal Charge XL NOAT 50/50 Prediluted Antifreeze and Coolant

EPA TSCA Regulatory Flag
Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed
denatonium benzoate (3734-33-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Thermal Charge XL NOAT 50/50 Prediluted Antifreeze and Coolant

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15.2. International regulations

CANADA

Thermal Charge XL NOAT 50/50 Prediluted Antifreeze and Coolant

WHMIS Classification

This SDS has been prepared according to the criteria of the Hazardous Products Regulations (HPR) (WHMIS 2015) and the SDS contains all of the information required by the HPR. Applicable GHS information is listed in section 2.2 of this SDS.

EU-Regulations

No additional information available

National regulations

Thermal Charge XL NOAT 50/50 Prediluted Antifreeze and Coolant

DSL (Canada): The intentional ingredients of this product are listed
ECL (South Korea): The intentional ingredients of this product are listed.
EINECS (Europe): The intentional ingredients of this product are listed
ENCS (Japan): The intentional ingredients of this product are listed

15.3. US State regulations

California Proposition 65 - This product contains, or may contain, substance(s) known to the state of California to cause cancer, developmental toxicity and/or reproductive toxicity

ethylene glycol (107-21-1)

<table>
<thead>
<tr>
<th>U.S. - California - Proposition 65 - Carcinogens List</th>
<th>U.S. - California - Proposition 65 - Developmental Toxicity</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</th>
<th>Non-significant risk level (NSRL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

ethylene glycol (107-21-1)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

diethylene glycol (111-46-6)

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

SECTION 16: Other information

Revision date : 03/13/2017
Thermal Charge XL NOAT 50/50 Prediluted Antifreeze and Coolant
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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-statements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful 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>
<tr>
<td>H361</td>
<td>Suspected of damaging fertility or the unborn child</td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs through prolonged or repeated exposure</td>
</tr>
</tbody>
</table>

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard : 1 - Must be preheated before ignition can occur.
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2</td>
<td>Moderate Hazard - Temporary or minor injury may occur</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
<td>Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 °F (93 °C). (Class IIIB)</td>
</tr>
<tr>
<td>Physical</td>
<td>0</td>
<td>Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.</td>
</tr>
<tr>
<td>Personal Protection</td>
<td>B</td>
<td>Safety glasses, Gloves</td>
</tr>
</tbody>
</table>

SDS GHS US (GHS HazCom 2012) OWI

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user’s responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.