



# MASTER LIQUID COPPER ENGINE BLOCK & RADIATOR SEALER 11.4 OZ.

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 09/10/2014

Version:

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

#### 1.1. Product identifier

Product form : Mixture  
Trade name : MASTER LIQUID COPPER ENGINE BLOCK & RADIATOR SEALER 11.4 OZ.  
Product code : LC8

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Seal Up

#### 1.3. Details of the supplier of the safety data sheet

Master Chemical  
4635 Willow Drive  
Medina, MN 55340 - USA  
T: 612-478-2360

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300, 1-703-527-3887 (International)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Not classified

#### 2.2. Label elements

##### GHS-US labeling

Signal word (GHS-US) : Warning

#### 2.3. Other hazards

Other hazards not contributing to the classification : None under normal conditions.

#### 2.4. Unknown acute toxicity (GHS-US)

No data available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

| Name  | Product identifier | %               | Classification (GHS-US)  |
|---|--------------------|-----------------|--|
| DI - Water                                  | (CAS No) 7789-20-0 | 41.495 - 66.392 | Not classified   |
| Sodium Silicate, Conc=41%, Aqueous Solution | (CAS No) 1344-09-8 | 16.598 - 41.495 | Not classified   |
| Copper, Powder                              | (CAS No) 7440-50-8 | < 1             | Not classified   |
| Sodium Nitrite                              | (CAS No) 7632-00-0 | < 1             | Ox. Sol. 3, H272<br>Acute Tox. 3 (Oral), H301<br>Aquatic Acute 1, H400 |

The exact percentage is a trade secret.

### 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 you feel unwell, seek medical advice (show the label where possible).  
First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.  
First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.  
First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.  
First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

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|                                      |   |
|--------------------------------------|---|
| Symptoms/injuries after inhalation   | : May cause irritation or asthma-like symptoms.   |
| Symptoms/injuries after skin contact | : May cause slight irritation . Itching. Red skin.  |
| Symptoms/injuries after eye contact  | : May cause slight eye irritation . Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue. |
| Symptoms/injuries after ingestion    | : May be harmful if swallowed and enters airways. Vomiting. Nausea.   |

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

|                                |  |
|--------------------------------|--|
| Suitable extinguishing media   | : Foam. Dry powder. Carbon dioxide. Water spray. Sand. |
| Unsuitable extinguishing media | : Do not use a heavy water stream.                     |

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

No additional information available

### 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 environment. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection.   |

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

|                  |                            |
|------------------|----------------------------|
| General measures | : Remove ignition sources. |
|------------------|----------------------------|

#### 6.1.1. For non-emergency personnel

|                      |                                   |
|----------------------|-----------------------------------|
| Protective equipment | : Gloves. Safety glasses.         |
| Emergency procedures | : Evacuate unnecessary personnel. |

#### 6.1.2. For emergency responders

|                      |  |
|----------------------|--|
| Protective equipment | : Equip cleanup crew with proper protection. |
| 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

|                         |  |
|-------------------------|--|
| For containment         | : Dam up the solid spill. Contain released substance, pump into suitable containers. Plug the leak, cut off the supply.                        |
| Methods for cleaning up | : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. |

### 6.4. Reference to other sections

See Heading 8. Exposure controls and 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. |
| Hygiene measures              | : Do not eat, drink or smoke when using this product.   |

### 7.2. Conditions for safe storage, including any incompatibilities

|                        |   |
|------------------------|---|
| Technical measures     | : Proper grounding procedures to avoid static electricity should be followed.   |
| Storage conditions     | : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use. |
| Incompatible products  | : Strong bases. Strong acids.   |
| Incompatible materials | : Sources of ignition. Direct sunlight.   |

### 7.3. Specific end use(s)

Follow Label Directions.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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### Copper, Powder (7440-50-8)

USA ACGIH

ACGIH TWA (mg/m<sup>3</sup>)

0.2 mg/m<sup>3</sup>

### 8.2. Exposure controls

Appropriate engineering controls

: Local exhaust ventilation, vent hoods.

Personal protective equipment

: Gloves. Safety glasses. Avoid all unnecessary exposure.



Hand protection

: Wear protective gloves.

Eye protection

: Chemical goggles or safety glasses.

Respiratory protection

: Wear appropriate mask.

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

Physical state

: Liquid

Appearance

: Clear, with copper-colored dispersion at bottom.

Color

: Copper.

Odor

: Odourless.

Odor threshold

: No data available

pH

: 11 - 12

Relative evaporation rate (butyl acetate=1)

: No data available

Melting point

: No data available

Freezing point

: No data available

Boiling point

: 100 - 102 °C

Flash point

: None

Auto-ignition temperature

: No data available

Decomposition temperature

: No data available

Flammability (solid, gas)

: No data available

Vapor pressure

: No data available

Relative vapor density at 20 °C

: No data available

Relative density

: 1.3 - 1.4

Solubility

: Soluble in water.  
Water: > 99 %

Log Pow

: No data available

Log Kow

: No data available

Viscosity, kinematic

: No data available

Viscosity, dynamic

: No data available

Explosive properties

: No data available

Oxidizing properties

: No data available

Explosive limits

: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

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### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Toxic fume. . Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

#### Sodium Silicate, Conc=41%, Aqueous Solution (1344-09-8)

|               |                    |
|---------------|--------------------|
| LD50 oral rat | > 2000 mg/kg (Rat) |
|---------------|--------------------|

#### Sodium Nitrite (7632-00-0)

|               |  |
|---------------|--|
| LD50 oral rat | 180 mg/kg (Rat; Other; Experimental value) |
|---------------|--|

|                            |                                     |
|----------------------------|-------------------------------------|
| LC50 inhalation rat (mg/l) | 5.5 mg/l/4h (Rat; Literature study) |
|----------------------------|-------------------------------------|

Skin corrosion/irritation : Not classified

pH: 11 - 12

Serious eye damage/irritation : Not classified

pH: 11 - 12

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

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

Symptoms/injuries after inhalation : May cause irritation or asthma-like symptoms.

Symptoms/injuries after skin contact : May cause slight irritation . Itching. Red skin.

Symptoms/injuries after eye contact : May cause slight eye irritation . Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue.

Symptoms/injuries after ingestion : May be harmful if swallowed and enters airways. Vomiting. Nausea.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Sodium Silicate, Conc=41%, Aqueous Solution (1344-09-8)

|             |  |
|-------------|--|
| LC50 fish 1 | 2320 mg/l (96 h; Gambusia affinis; Pure substance) |
|-------------|--|

|                |  |
|----------------|--|
| EC50 Daphnia 1 | 216 mg/l (96 h; Daphnia magna; Pure substance) |
|----------------|--|

|             |   |
|-------------|---|
| LC50 fish 2 | 3185 mg/l (96 h; Brachydanio rerio; Pure substance) |
|-------------|---|

|                |   |
|----------------|---|
| EC50 Daphnia 2 | 247 mg/l (100 h; Daphnia magna; Pure substance) |
|----------------|---|

|            |   |
|------------|---|
| TLM fish 1 | 2320 ppm (96 h; Gambusia affinis; Pure substance) |
|------------|---|

#### Sodium Nitrite (7632-00-0)

|             |   |
|-------------|---|
| LC50 fish 1 | 40.6 mg/l (96 h; Channa punctatus; Nitrite) |
|-------------|---|

|                |  |
|----------------|--|
| EC50 Daphnia 1 | 12.5 - 100 mg/l (48 h; Daphnia magna; Nitrite) |
|----------------|--|

|                                |                                   |
|--------------------------------|-----------------------------------|
| EC50 other aquatic organisms 1 | 20 mg/l (Protozoa; Toxicity test) |
|--------------------------------|-----------------------------------|

|             |  |
|-------------|--|
| LC50 fish 2 | 0.56 - 1.78 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss) |
|-------------|--|

|                |   |
|----------------|---|
| EC50 Daphnia 2 | 66 mg/l (48 h; Daphnia magna; Nitrogen) |
|----------------|---|

|            |                                  |
|------------|----------------------------------|
| TLM fish 1 | 7.5 ppm (48 h; Gambusia affinis) |
|------------|----------------------------------|

|                         |   |
|-------------------------|---|
| Threshold limit algae 1 | 1230 mg/l (192 h; Scenedesmus quadricauda; Nitrite) |
|-------------------------|---|

|                         |   |
|-------------------------|---|
| Threshold limit algae 2 | 350 mg/l (192 h; Microcystis aeruginosa; Nitrite) |
|-------------------------|---|

#### Copper, Powder (7440-50-8)

|             |  |
|-------------|--|
| LC50 fish 1 | 200 µg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Lethal) |
|-------------|--|

|                |  |
|----------------|--|
| EC50 Daphnia 1 | 109 - 798 µg/l (48 h; Daphnia magna; Locomotor effect) |
|----------------|--|

|                         |   |
|-------------------------|---|
| Threshold limit algae 1 | 230 µg/l (72 h; Pseudokirchneriella subcapitata; Growth rate) |
|-------------------------|---|

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### 12.2. Persistence and degradability

| MASTER LIQUID COPPER ENGINE BLOCK & RADIATOR SEALER 11.4 OZ. |   |
|--|---|
| Persistence and degradability                                | Not established.  |
| Sodium Silicate, Conc=41%, Aqueous Solution (1344-09-8)      |   |
| Persistence and degradability                                | Biodegradability: not applicable. No (test)data on mobility of the components available.              |
| Biochemical oxygen demand (BOD)                              | Not applicable  |
| Chemical oxygen demand (COD)                                 | Not applicable  |
| ThOD   | Not applicable  |
| BOD (% of ThOD)  | Not applicable  |
| DI - Water (7789-20-0)                                       |   |
| Persistence and degradability                                | Not established.  |
| Sodium Nitrite (7632-00-0)                                   |   |
| Persistence and degradability                                | Biodegradable in water. Autooxidation in water. No (test)data on mobility of the substance available. |
| Water (7732-18-5)  |   |
| Persistence and degradability                                | Not established.  |
| Copper, Powder (7440-50-8)                                   |   |
| Persistence and degradability                                | Biodegradability: not applicable. Biodegradability in soil: not applicable. Adsorbs into the soil.    |
| Biochemical oxygen demand (BOD)                              | Not applicable  |
| Chemical oxygen demand (COD)                                 | Not applicable  |
| ThOD   | Not applicable  |
| BOD (% of ThOD)  | Not applicable  |

### 12.3. Bioaccumulative potential

| MASTER LIQUID COPPER ENGINE BLOCK & RADIATOR SEALER 11.4 OZ. |   |
|--|---|
| Bioaccumulative potential                                    | Not established.  |
| Sodium Silicate, Conc=41%, Aqueous Solution (1344-09-8)      |   |
| Bioaccumulative potential                                    | Not bioaccumulative.  |
| DI - Water (7789-20-0)                                       |   |
| Bioaccumulative potential                                    | Not established.  |
| Sodium Nitrite (7632-00-0)                                   |   |
| BCF fish 1   | 11.3 Salmo gairdneri (Oncorhynchus mykiss)  |
| Log Pow  | -3.7 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 25 °C) |
| Bioaccumulative potential                                    | Low potential for bioaccumulation (Log Kow < 4).  |
| Water (7732-18-5)  |   |
| Bioaccumulative potential                                    | Not established.  |
| Copper, Powder (7440-50-8)                                   |   |
| Bioaccumulative potential                                    | Bioaccumulation: not applicable.  |

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Ecology - waste materials : Avoid release to the environment.

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### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

US DOT (ground): Not Regulated,  
ICAO/IATA (air): Not Regulated,  
IMO/IMDG (water): Not Regulated,

#### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not Regulated

#### 14.3. Additional information

Other information : No supplementary information available.

#### Overland transport

No additional information available

#### Transport by sea

No additional information available

#### Air transport

No additional information available

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### MASTER LIQUID COPPER ENGINE BLOCK & RADIATOR SEALER 11.4 OZ.

|                                     |                                 |
|-------------------------------------|---------------------------------|
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |
|-------------------------------------|---------------------------------|

##### Sodium Nitrite (7632-00-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

|                                     |  |
|-------------------------------------|--|
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard<br>Reactive hazard |
|-------------------------------------|--|

##### Copper, Powder (7440-50-8)

Listed on United States SARA Section 313  
Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

##### CANADA

##### Sodium Nitrite (7632-00-0)

Listed on the Canadian DSL (Domestic Substances List)

|                      |  |
|----------------------|--|
| WHMIS Classification | Class C - Oxidizing Material<br>Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects<br>Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
|----------------------|--|

#### EU-Regulations

##### Sodium Nitrite (7632-00-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)- Directive 79/831/EEC, sixth Amendment of Directive 67/548/EEC (dangerous substances)

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11  
O; R8  
Xi; R41  
Xi; R38

Full text of R-phrases: see section 16

#### 15.2.2. National regulations

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### Sodium Nitrite (7632-00-0)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on the AICS (Australian Inventory of Chemical Substances)

### 15.3. US State regulations

#### Sodium Nitrite (7632-00-0)

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

### SECTION 16: Other information

Other information : None.

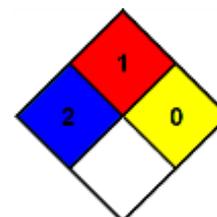
Full text of H-phrases: see section 16:

|                     |  |
|---------------------|--|
| Acute Tox. 3 (Oral) | Acute toxicity (oral) Category 3                               |
| Aquatic Acute 1     | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| Ox. Sol. 3          | Oxidizing solids Category 3                                    |
| H272                | May intensify fire; oxidizer                                   |
| H301                | Toxic if swallowed   |
| H400                | Very toxic to aquatic life                                     |

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention 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

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 1 Slight Hazard

Physical : 0 Minimal Hazard

Personal Protection : B

SDS US (GHS HazCom 2012)

*The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product*

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