


**1 Identification of the substance/mixture and of the company/undertaking**



1.1 Product identifier  
Trade name: **OptiShield Corrosion Inhibitor**  
Application of the substance / the preparation Water treatment


1.3 Details of the supplier of the Safety Data Sheet  
Manufacturer/Supplier:  
Opti Temp  
1500 International Drive  
Traverse City, MI 49686  
Tel: (231) 946 2931  
E-mail: Information@OptiTemp.com

Further information obtainable from: Product Safety Department  
1.4 Emergency telephone number: (231) 946-2931



**2 Hazards identification**

2.1 Classification of the substance or mixture  
Classification according to Regulation (EC) No 1272/2008  
 GHS05 corrosion  
Skin Corr. 1C H314 Causes severe skin burns and eye damage  
Classification according to Directive 67/548/EEC or Directive 1999/45/EC  
 C. Corrosive  
R34 Causes burns  
Information concerning particular hazards for human and environment:  
The product has to be labeled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version  
Classification system:  
The classification is according to the latest editions of the EU-lists, and extended by company and literature data



2.2 Label elements  
Labeling according to Regulation (EC) No 1272/2008  
The product is classified and labeled according to the CLP regulation  
Hazard pictograms  
 GHS05  
Signal word Danger  
Hazard statements  
H314 Causes severe skin burns and eye damage  
Precautionary statements  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.


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
Trade name: OPTISHIELD Corrosion Inhibitor

P264 Wash thoroughly after handling  
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor/physician.  
P321 Specific treatment (see on this label).  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P303 Wash contaminated clothing before reuse.  
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard description:  
WHMIS-symbols:  
D2B - Toxic material causing other toxic effects  
E - Corrosive material

NFPA ratings (scale 0 - 4)  
 Health = 2  
Fire = 0  
Reactivity = 0

HMIS-ratings (scale 0 - 4)  
 Health = 2  
Fire = 0  
Reactivity = 0

2.3 Other hazards  
Results of PBT and vPvB assessment  
PBT: Not applicable.  
vPvB: Not applicable.

**3 Composition/information on ingredients**

3.2 Mixtures  
Description: Mixture of substances listed below with nonhazardous additions

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Trade name: OPTISHIELD Corrosion Inhibitor

Dangerous components:

CAS 7601-54-9 EINECS 231-509-8	trisodium orthophosphate substance with a Community workplace exposure limit	- 2.2%
CAS 7631-99-4 EINECS 231-554-3	sodium nitrate, containing in the dry state more than 16,3 per cent by weight of nitrogen Xn R22, Xi R36, O R8 + Ox Sol 2, H272 + Eye Irrit. 2, H319	- 1.0%

Additional information: For the wording of the listed risk phrases refer to section 16

**4 First aid measures**

4.1 Description of first aid measures  
General information: Immediately remove any clothing soiled by the product  
After inhalation:  
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.  
In case of unconsciousness place patient stably in side position for transportation.  
After skin contact:  
Immediately wash with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.  
After eye contact:  
Remove contact lenses if worn.  
Rinse opened eye for several minutes under running water. Then consult a doctor.  
After swallowing:  
Do not induce vomiting, call for medical help immediately.  
Rinse out mouth and then drink plenty of water.  
4.2 Most important symptoms and effects, both acute and delayed  
Methaemoglobinemia  
Dizziness  
Gastric or intestinal disorders  
Hazards  
Danger of disturbed cardiac rhythm  
Danger of circulatory collapse.  
4.3 Indication of any immediate medical attention and special treatment needed  
Medical supervision for at least 48 hours.  
Monitor circulation

**5 Firefighting measures**

5.1 Extinguishing media  
Suitable extinguishing agents:  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.  
5.2 Special hazards arising from the substance or mixture No further relevant information available.

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5.3 Advice for firefighters  
Protective equipment:  
Wear self-contained respiratory protective device  
Wear fully protective suit

**6 Accidental release measures**

6.1 Personal precautions, protective equipment and emergency procedures  
Wear protective equipment. Keep unprotected persons away  
6.2 Environmental precautions:  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water  
6.3 Methods and material for containment and cleaning up:  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust)  
Clean the affected area carefully; suitable cleaners are:  
Warm water and cleansing agent  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
6.4 Reference to other sections  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information

**7 Handling and storage**

7.1 Precautions for safe handling  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.  
Information about fire - and explosion protection: No special measures required.  
7.2 Conditions for safe storage, including any incompatibilities  
Storage:  
Requirements to be met by storerooms and receptacles: No special requirements.  
Information about storage in one common storage facility:  
Store away from foodstuffs.  
Do not store together with acids.  
Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.  
7.3 Specific end use(s) No further relevant information available.

**8 Exposure controls/personal protection**  
Additional information about design of technical facilities: No further data, see item 7.

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Trade name: OPTISHIELD Corrosion Inhibitor
14.6 Special precautions for user Not applicable
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable
UN "Model Regulation": -
<b>15 Regulatory information</b>
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture United States (USA)
SARA
Section 355 (extremely hazardous substances): None of the ingredients is listed.
Section 313 (Specific toxic chemical listings): None of the ingredients is listed.
TSCA (Toxic Substances Control Act): All ingredients are listed.
Proposition 65 (California): Chemicals known to cause cancer: None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed.
Chemicals known to cause developmental toxicity: None of the ingredients is listed.
Carcinogenic Categories
EPA (Environmental Protection Agency) None of the ingredients is listed.
TLV (Threshold Limit Value established by ACGIH) None of the ingredients is listed.
NIOSH-Ca (National Institute for Occupational Safety and Health) None of the ingredients is listed.
OSHA-Ca (Occupational Safety & Health Administration) None of the ingredients is listed.
Canada
Canadian Domestic Substances List (DSL) All ingredients are listed.

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**OPTISHIELD®  
DIRECTIONS FOR USE**

OPTISHIELD® is a liquid water additive formulated to provide corrosion protection for a broad range of materials in "closed circuit" re-circulating systems. OPTISHIELD® is suitable for use in most "new" and "existing systems" when used in accordance with directions. However when used with existing systems which may contain excess scale, oxidation, and sediment, it may be advisable to first flush the system with a mild cleaning agent. Contact your equipment manufacturer and/or OPTI TEMP for recommendations on appropriate cleaners.

**Shelf Life:** Recommended shelf life (mixed or concentrate)-fluid can be stored for a period 15 months from package date when stored in accordance with Opti Temp's storage guidelines.

**Storage:** Keep container closed at all times when not in use. Store in a cool area above 60°F. Do not allow fluid to freeze. Store where direct sunlight cannot reach the product container.

**Caution:** Some cleaners and/or additives can be harmful to certain system components. Check with the equipment manufacturer for compatibility with the system before using OPTISHIELD® or any other additives. Use of unapproved products may void your equipment warranty.

**Filtration:** It is strongly recommended that particle filtration be installed on all re-circulating systems, particularly for those systems where corrosion, scale, and other contaminants may already exist. Use of OPTISHIELD® will tend to loosen and free contaminants over time. **TO PROTECT PUMPS, SEALS, AND OTHER COMPONENTS INSTALL FILTERS ON THE RETURN SIDE OF THE SYSTEM** Please note that filter type and minimum recommended particle sizes may vary by application. Contact your equipment manufacturer or OPTI TEMP engineers for more information and recommendations.

**Caution: READ Instructions for use and Material Safety Data Sheet thoroughly before handling OPTISHIELD®.**

**Directions for New Systems "First Time Use"**

Note: If system is an existing system with a known corrosion problem, the system should first be treated and flushed with a mild cleanser. Contact OPTI TEMP for more details.

1. Flush cooling circuit with distilled water.
2. Calculate system capacity/volume in gallons. Fill cooling system with a 5% solution of OPTISHIELD® and distilled water. (Example: 1 gallon of OPTISHIELD® to 19 gallons of water for first "cooling cycle")
3. Circulate this solution for about 30 minutes.
4. Drain fluid\*.
5. Fill cooling system with a 10% solution of OPTISHIELD® and distilled water. (1 gallon of OPTISHIELD® to 9 gallons of distilled water)
6. Change fluid as directed by OPTI TEMP INC.

**Directions "After First Time Use"**

1. Drain used fluid from system\*.
2. Fill cooling system with a 10% solution of OPTISHIELD® and distilled water. (1 gallon of OPTISHIELD® to 9 gallons of water)
3. The system is ready for use.

\*Dispose of according to local, state, and federal regulations.

Trade name: OPTISHIELD Corrosion Inhibitor
Canadian Ingredient Disclosure list (limit 0.1%) None of the ingredients is listed.
Canadian Ingredient Disclosure list (limit 1%) 7631-95-0 Sodium molybdate 7631-99-4 sodium nitrate, containing in the dry state more than 16.3 per cent by weight of nitrogen
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.
<b>16 Other information</b>
This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
Relevant phrases H272 May intensify fire, oxidizer. H319 Causes serious eye irritation.
R22 Harmful if swallowed. R36 Irritating to eyes R9 Contact with combustible material may cause fire
Abbreviations and acronyms: ADR: Accord Européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association GHS: Globally Harmonized System of Classification and Labeling of Chemicals ACGIH: American Conference of Governmental Industrial Hygienists NFPA: National Fire Protection Association (USA) HMS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada)

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**WHEN DO I CHANGE THE OPTISHIELD® SOLUTION?**

OPTI TEMP INC. recommends changing the OPTISHIELD® solution annually. **Failing to change the solution when prescribed can lead to serious corrosion problems.** Please follow all directions.

The time between successive changes generally depends on three main factors:

1. The types of dissimilar metals in the system.
2. The temperatures encountered by the solution.
3. The number of hours per day the fluid is circulated at the above temperatures.

OPTI TEMP, INC. can recommend a schedule for your system.

**HOW AND WHEN DO I CHECK THE OPTISHIELD® SOLUTION?**

During the first 4 weeks it is best to check the system weekly, if not more often, for CLARITY. This can be done by taking a small sample of the fluid and holding it up to the light to make sure there are no precipitates (solids) in the solution. If any precipitates (or a cloudy solution) are found, the solution should be drained following the "Directions For Use of OPTISHIELD®".

The solution should also be tested for pH level. **The pH should not fall below pH=9.** If the pH=9 or less, drain the system and follow the "Directions For Use of OPTISHIELD®".

If, after one year (or the prescribed time OPTI TEMP recommended for your special application) your solution is still clear and the pH=9 or above, we recommend that the fluid still be changed out. The clarity and pH tests are to be used as guidelines for solutions that need to be changed before the specified time period.

**CONDUCTIVITY REQUIREMENTS**

If your system has low electrical conductivity requirements, please contact OPTI TEMP INC. for recommended concentrations of OPTISHIELD® and relevant instructions.