MANITOWOC

MANITOWOC ICE

Safety Data Sheet
Metal Safe Ice Machine Descaler

SECTION 1: Identification

GHS Product identifier

Product name	Metal Safe Ice Machine Descaler
Product number	000000084, 000006036
Brand	Manitowoc

Recommended use of the chemical and restrictions on use
Ice machine descaler

Supplier's details

Name	Manitowoc Ice
Address	2110 South 26th Street Manitowoc Wisconsin 54220 United States
Telephone	(920) 682-0161
email	www.manitowocice.com

Emergency phone number

CHEMTREC Emergency # (US + Canada): (800) 424-9300
CHEMTREC Emergency # (INTERNATIONAL): +01-703-527-3887

SECTION 2: Hazard identification

Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200)

- Eye damage/irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1B

GHS label elements, including precautionary statements

Pictogram



Signal word	**Danger**

Hazard statement(s)

H314	Causes severe skin burns and eye damage

Precautionary statement(s)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands and other exposed areas thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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/doctor if exposed or concerned.
P321	Specific treatment (see First Aid on this label).
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container to the specifications of local, regional, national, and international regulations.

Other hazards which do not result in classification

May react with certain metals to form explosive/flammable hydrogen gas. May react violently with water.

SECTION 3: Composition/information on ingredients

Mixtures

Hazardous components

1. Phosphoric acid

Concentration	< 40 % (weight)
EC no.	231-633-2
CAS no.	7664-38-2
Index no.	015-011-00-6

2. Hydroxyacetic acid

Concentration	< 10 % (weight)
EC no.	201-180-5
CAS no.	79-14-1

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
If inhaled	First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing. Get medical advice/attention.

In case of skin contact	Immediately drench affected area with water for at least 15 minutes. Remove contaminated clothing immediately. Obtain medical attention if irritation develops or persists.
In case of eye contact	Immediately rinse with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.
If swallowed	Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

Most important symptoms/effects, acute and delayed
Symptoms/Injuries After Eye Contact: Causes severe irritation and burns. May cause ulcerations, conjunctivitis, permanent eye damage, blindness, redness, and/or burning sensation.
Symptoms/Injuries After Skin Contact: Causes severe irritation and burns. Contact may cause dermatitis (inflammation of the skin), ulceration, permanent skin damage, drying, cracking, itching, redness, and/or burning sensation.
Symptoms/Injuries After Skin Absorption: No absorption hazard expected under normal use.
Symptoms/Injuries After Inhalation: May be corrosive to the respiratory tract. Severe irritation and burns may result. Vapors or mist may irritate or burn respiratory tract, nose, mouth, and/or throat. May cause persistent coughing, pulmonary edema, chemical pneumonitis, and/or permanent damage.
Symptoms/Injuries After Ingestion: Causes severe irritation and burns. May irritate or burn mouth, throat, stomach, and esophagus. May cause abdominal pain, chest pain, nausea, vomiting, diarrhea, seizures, hemorrhaging, and permanent damage. Aspiration into the lungs may occur during ingestion or vomiting, resulting in severe pulmonary injury. May be fatal if swallowed.

Indication of immediate medical attention and special treatment needed, if necessary
If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms/injuries and the clinical condition of the patient.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Not flammable or combustible. Water spray, dry chemical, carbon dioxide (CO2), foam. Use appropriate media for surrounding fire.

Specific hazards arising from the chemical
None known. May react with certain metals to form explosive/flammable hydrogen gas.

Special protective actions for fire-fighters
Precautionary Measures Fire: Exercise caution when fighting any chemical fire.
Firefighting Instructions: Use dry chemical, water, foam, or carbon dioxide (CO2). Do not breathe fumes from fire or vapors from decomposition. Do NOT fight fire when fire reaches containers. Evacuate area. Fight fire remotely due to the risk of explosion. Shut off all sources of igniton. Use water spray or fog for cooling exposed containers.
Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Wear NIOSH-approved Self-Contained Breathing Apparatus with a full face piece operated in a positive pressure demand mode with full body protective clothing when fighting fires.
Hazardous Combustion Products: Phosphorous oxides, phosphine, toxic and corrosive vapors, carbon oxides.

Further information
Do not allow run-off from fire fighting to enter drain or water courses.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe vapors, spray, mist, gas. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
For Non-Emergency Personnel
Emergency Procedures: Evacuate unnecessary personnel. Stop leak if safe to do so.
Protective Equipment: Use appropriate personal protective equipment (PPE).
For Emergency Personnel
Emergency Procedure: Eliminate ignition source first, then ventilate the area. Evacuate unnecessary personnel, isolate, and ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.
Protective Equipment: Equip cleanup crew with proper protection.

Environmental precautions
Prevent entry into sewers and public waters. Avoid release to the environment.

Methods and materials for containment and cleaning up
Methods For Containment: Ventilate area. Contain any spills with dikes or absorbents to prevent further migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.
Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Eliminate all ignition sources. Ventilate area. Stop the ignition source of the release, if safe to do so. Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering. Take up liquid spill into absorbent material. Transfer spilled material to a suitable container for disposal. Flush area with water and neutralize with a dilute base. Contact competent authorities after a spill.
Waste Disposal: Dispose of in accordance with local, regional, national, and international regulations. Containers may be hazardous when empty. Do not flame cut, braze, or weld.

Reference to other sections
See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: Handling and storage

Precautions for safe handling
Precautions for Safe Handling: Do not handle until all safety precautions have been read and understood. Avoid contact with skin, eyes and clothing. Do not breathe gas, mist, spray, vapors. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not spray on open flame or other ignition source.
Additional Hazards When Processed: Do not pressurize, cut, or weld containers. Do not pierce or burn, even after use.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.
Other Precautions: Keep out of reach of children. Follow label instructions.

Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Mixing with strong bases can cause high heat of reaction and generate steam.

Conditions for safe storage, including any incompatibilities
Technical Measures: Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.
Storage Conditions: Store in a dry, cool place. Keep only in the original container in a cool, well-ventilated place away from ignition sources. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area.
Incompatible Materials: Metals, strong oxidizing agents, sulfides, sulfites, bases, fluorine, sulfur trioxide, phosphorous pentoxide, sodium tetrahydroborate, aldehydes, amines, amides, alcohols, azo-compounds, carbamates, esters,

caustics, phenols, cresols, ketones, organophosphates, epoxides, explosives, combustible materials, unsaturated halides, organic peroxides, mercaptans, cyanides, nitromethane, glycols, fluorides, halogenated organics, sulfur, aluminum, copper, mild steel, brass, bronze, steel, alkalis, carbonates, acetates, potassium tartrate, metal nitrates, reducing agents, bicarbonates, alkali metals, metal alloys of copper, aluminum, and zinc, lead, oxides of sulfur, fiber-reinforced polyester, cast iron, and reactive metals.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 7664-38-2 (EC: 231-633-2)

Phosphoric acid

ACGIH (USA): 1 mg/m3, (ST) 3 mg/m3 TLV® inhalation; Cal/OSHA (USA): 1 mg/m3, (ST) 3 mg/m3 PEL inhalation; NIOSH (USA): 1 mg/m3, (ST) 3 mg/m3 REL inhalation; OSHA (USA): 1 mg/m3 PEL inhalation

Appropriate engineering controls

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Use explosion-proof equipment. Proper grounding procedures to avoid static electricity should be followed. Use only outdoors or in well-ventilated area. Ensure all local, regional, national, and international regulations are observed. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Individual protection measures, such as personal protective equipment (PPE)

Pictograms



Eye/face protection

Chemical safety goggles. Insufficient ventilation: wear respiratory protection. Respiratory protection of the dependent type.

Skin protection

Wear protective gloves and clothing.

Body protection

Wear suitable protective clothing. Wear protective gloves. Chemical resistant materials and fabrics. Wear fire/flame resistant/retardant clothing.

Respiratory protection

Use a NIOSH-approved Self-Containing Breathing Apparatus whenever exposure may exceed established Occupational Exposure Limits.

SECTION 9: Physical and chemical properties and safety characteristics

Basic physical and chemical properties

Physical state	Liquid
Appearance	Clear liquid
Color	Green
Odor	Odorless
Odor threshold	N/D

Melting point/freezing point	N/D
Boiling point or initial boiling point and boiling range	N/D
Flammability	Not considered a flammable liquid by OSHA (29CFR 1910.1200)
Lower and upper explosion limit/flammability limit	N/D
Flash point	N/D
Auto-ignition temperature	N/D
Decomposition temperature	N/D
pH	< 2
Kinematic viscosity	N/D
Solubility	Completely soluble in water
Partition coefficient n-octanol/water (log value)	N/D
Vapor pressure	N/D
Evaporation rate	N/D
Density and/or relative density	1.22-1.24
Relative vapor density	N/D

Particle characteristics
N/D

SECTION 10: Stability and reactivity

Reactivity
May react with strong bases and chemically active metals.

Chemical stability
Stable under normal conditions of use.

Possibility of hazardous reactions
Hazardous polymerization will not occur under normal conditions. May react with certain metals to form explosive/flammable hydrogen gas. Mixing with strong bases can cause high heat of reaction and generate steam. Phosphoric acid forms flammable gases with sulfides, mercaptans, cyanides, and aldehydes. Phosphoric acid forms toxic fumes with cyanides, sulfides, fluorides, organic peroxides, and halogenated organics. Phosphoric acid mixtures with nitromethane are explosive.

Conditions to avoid
Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Avoid high temperatures.

Incompatible materials
Metals, strong oxidizing agents, sulfides, sulfites, bases, fluorine, sulfur trioxide, phosphorous pentoxide, sodium tetrahydroborate, aldehydes, amines, amides, alcohols, azo-compounds, carbamates, esters, caustics, phenols, cresols, ketones, organophosphates, epoxides, explosives, combustible materials, unsaturated halides, organic peroxides, mercaptans, cyanides, nitromethane, glycols, fluorides, halogenated organics, sulfur, aluminum, copper, mild steel, brass, bronze, steel, alkalis, carbonates, acetates, potassium tartrate, metal nitrates, reducing agents, bicarbonates, alkali metals, metal alloys of copper, aluminum, and zinc, lead, oxides of sulfur, fiber-reinforced polyester, cast iron, and reactive metals.

Hazardous decomposition products
Phosphorous oxides, phosphine, toxic and corrosive vapors, carbon oxides.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
The ATE (gas inhalation) of the mixture is: 45000 ppmV

Hydroxyacetic acid
LC50 Inhalation - Rat - 3.6 mg/l - 4 h
LD50 Oral - Rat - 2,040 mg/kg
LC50 - Danio rerio (zebra fish) - 5,000 mg/l - 96 h

Skin corrosion/irritation
Causes severe irritation and burns. Contact may cause dermatitis (inflammation of the skin), ulceration, permanent skin damage, drying, cracking, itching, redness, and/or burning sensation.

Serious eye damage/irritation
Causes severe irritation and burns. May cause ulcerations, conjunctivitis, permanent eye damage, blindness, redness, and/or burning sensation.

Respiratory or skin sensitization
No absorption hazard expected under normal use.

Germ cell mutagenicity
None known.

Carcinogenicity
None known.

Reproductive toxicity
None known.

STOT-single exposure
None known.

STOT-repeated exposure
None known.

Aspiration hazard
May be corrosive to the respiratory tract. Severe irritation and burns may result. Vapors or mists may irritate or burn respiratory tract, nose, mouth, and/or throat. May cause persistent coughing, pulmonary edema, chemical pneumonitis, and permanent damage.

Additional information
Medical Conditions Aggravated by Exposure to Product: Eye disorders, skin disorders, impaired respiratory function, lung disorders, and respiratory system disorders.

SECTION 12: Ecological information

Toxicity
Hydroxyacetic acid
LC50 Inhalation - Rat - 3.6 mg/l - 4 h
LD50 Oral - Rat - 2,040 mg/kg
LC50 - Danio rerio (zebra fish) - 5,000 mg/l - 96 h

Persistence and degradability
This product is biodegradable.

Bioaccumulative potential
This product is not expected to bioaccumulate.

Mobility in soil
This product is mobile in soil.

SECTION 13: Disposal considerations

Disposal methods
Product disposal
Dispose of contents/container in accordance with local, regional, national, and international regulations. Do not pierce or burn, even after use.

Waste treatment
Check the pH of the waste to be disposed. May be subjected to disposal regulations: U. S. EPA 40 CFR 261. Hazardous waste number(s): D002.

Sewage disposal
Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Other disposal recommendations
Container may remain hazardous when empty. Continue to observe all precautions. Do not puncture or incinerate container.

SECTION 14: Transport information

DOT (US)
UN Number: UN1760
Class: 8
Packing Group: II
Proper Shipping Name: Corrosive liquids, n.o.s. (Phosphoric acid, Hydroxyacetic acid)
Reportable quantity (RQ): 5,000 lbs. phosphoric acid
Note: The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors. In the United States, it may be possible to to reclassify this material as a Consumer Commodity ORM-D based on 49 CFR 173.154 (b)(c).

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canadian Domestic Substances List (DSL)
Chemical name: Phosphoric acid
CAS: 7664-38-2

Chemical name: Acetic acid, hydroxy-
CAS: 79-14-1

Massachusetts Right To Know Components
Phosphoric acid
CAS number: 7664-38-2

New Jersey Right To Know Components
Phosphoric acid
CAS number: 7664-38-2

Glycollic acid
CAS-No. 79-14-1

Pennsylvania Right To Know Components
Phosphoric acid
CAS number: 7664-38-2

Glycollic acid
CAS-No. 79-14-1

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Toxic Substances Control Act (TSCA) Inventory
All chemicals are listed or exempt.

SECTION 16: Other information

N/A = Not applicable; N/D = Not determined

Further information/disclaimer
To the best of our knowledge, information contained herein is accurate. However there is no assumption of liability for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazard which exists. The information contained in this SDS was obtained from current and reliable sources; however, the data is provided without warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions of handling, storage and disposal of this product are beyond the control of the manufacturer, the manufacturer will not be responsible for loss, injury, or expense arising out of the products improper use. No warranty, expressed or inferred, regarding the product described in this SDS shall be created or inferred by any statement in this SDS. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this SDS. The user is responsible for full compliance.

Preparation information
Prepared by: Jessica Wilson
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