

SAFETY DATA SHEET

FLOGARD MS6209

1. Identification

Product identifier FLOGARD MS6209
Other means of identification None.
Recommended use of the chemical and restrictions on use
Recommended use Water-based corrosion inhibitor
Recommended restrictions None known.

Company/undertaking identification

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2. Hazards identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity (oral)	Category 4
	Skin corrosion or irritation	Category 1
	Serious eye damage or eye irritation	Category 1
	Specific target organ toxicity - single exposure	Category 2
Environmental hazards	Hazardous to the aquatic environment - chronic hazard	Category 2

Label elements



Signal word Danger

Hazard statement May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to organs. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Keep only in original packaging. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material-damage. Collect spillage.

Storage Store locked up. Store in corrosive resistant/ container with a resistant inner liner.

Disposal Dispose of contents/container to .

Other hazards which do not result in classification None known.

SAFETY DATA SHEET

FLOGARD MS6209

Supplemental information 34.3132% of the mixture consists of component(s) of unknown acute oral toxicity. 99.9932% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Phosphoric Acid		7664-38-2	60 - < 60
Zinc bis(dihydrogen phosphate)		13598-37-3	10 - < 20

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

SAFETY DATA SHEET

FLOGARD MS6209

7. Handling and storage

Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

India. OELs. The Factories Act, The Second Schedule: Permissible Levels of Certain Chemical Substances in the Work Environment

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m ³
	TWA	1 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m ³
	TWA	1 mg/m ³

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Liquid

Physical state

Liquid.

Form

Liquid.

Color

Colorless to yellow

Odor

Slight

Odor threshold

Not available.

pH (concentrated product)

< 1

pH in aqueous solution

2.2 (5% SOL.)

Melting point/freezing point

< -34 °C

Initial boiling point and boiling range

104 °C

Flash point

Not available.

Evaporation rate

< 1 (Ether = 1)

Flammability (solid, gas)

Not applicable.

SAFETY DATA SHEET

FLOGARD MS6209

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

Vapor pressure	15 mm Hg
Vapor pressure temp.	21 °C
Vapor density	< 1 (Air = 1)
Relative density	1.71
Relative density temperature	21 °C

Solubility(ies)

Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	50 cps
Viscosity temperature	21 °C

Other information

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	< -34 °C
Specific gravity	1.711
VOC	0 % (Calculated)

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Not available.
Possibility of hazardous reactions	Not available.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Metals.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs by inhalation. May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity	Harmful if swallowed.
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SAFETY DATA SHEET

FLOGARD MS6209

Product	Species	Test Results
FLOGARD MS6209 (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	1025 mg/kg, (Calculated according to GHS additivity formula)
Components	Species	Test Results
Phosphoric Acid (CAS 7664-38-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2740 mg/kg
<i>Oral</i>		
LD50	Rat	300 mg/kg
Zinc bis(dihydrogen phosphate) (CAS 13598-37-3)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	1260 mg/kg
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.	
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not available.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard. Based on available data, the classification criteria are not met.	
Chronic effects	Prolonged inhalation may be harmful.	

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Product	Species	Test Results
FLOGARD MS6209 (CAS Mixture)		
Aquatic		
Crustacea	ChV	Ceriodaphnia
	IC25	Ceriodaphnia
	LC50	Ceriodaphnia
		Daphnia magna
	LOEL	Ceriodaphnia
	NOEL	Ceriodaphnia
		0.625 mg/L, Chronic Bioassay, 7 D
		1.9 mg/L, Chronic Bioassay, 7 D
		1.5 mg/L, Static Renewal Bioassay, 48 H
		12 mg/L, Static Renewal Bioassay, 48 H
		1.25 mg/L, Chronic Bioassay, 7 D
		63 mg/L, Static Renewal Bioassay, 48 H

SAFETY DATA SHEET

FLOGARD MS6209

Product		Species	Test Results
Fish	IC25	Daphnia magna	0.3125 mg/L, Chronic Bioassay, 7 D
		Fathead Minnow	1.5 mg/L, Static Renewal Bioassay, 48 H
	LC50	Fathead Minnow	5 mg/L, Chronic Bioassay, 7 D
		Rainbow Trout	14 mg/L, Static Renewal Bioassay, 96 H
	NOEL	Fathead Minnow	4.9 mg/L, Static Renewal Bioassay, 96 H
			2.5 mg/L, Static Renewal Bioassay, 96 H
			1.25 mg/L, Chronic Bioassay, 7 D
			1.6 mg/L, Static Renewal Bioassay, 96 H

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Environmental fate Toxic to aquatic life with long lasting effects.

Persistence and degradability This product, being inorganic and in its highest oxidation state, has no COD,BOD or TOC.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

IATA

Basic shipping requirements:

UN number UN1805
Proper shipping name PHOSPHORIC ACID SOLUTION
Hazard class 8
Packing group III
Special transport precautions and conditions Read safety instructions, SDS and emergency procedures before handling.

IMDG

Basic shipping requirements:

UN number UN1805
Proper shipping name PHOSPHORIC ACID SOLUTION, MARINE POLLUTANT
Hazard class 8
Packing group III
Marine pollutant Yes
EmS No. F-A, S-B
Special transport precautions and conditions Read safety instructions, SDS and emergency procedures before handling.

SEA (Annex II of MARPOL 73/78 and the IBC Code) Not established.

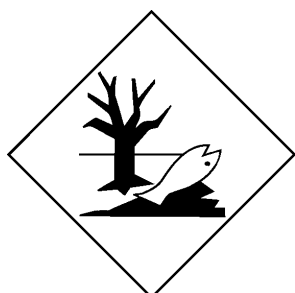
SAFETY DATA SHEET

FLOGARD MS6209

IATA; IMDG



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

15. Regulatory information

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

Controlled Narcotic & Psychotropic Precursors List

Not regulated

CWC (Chemical Weapons Convention Act 2000, Schedules 1-3)

Not regulated

Hazardous Chemicals, Schedule 2: Threshold Quantities at an Isolated Storage (Manufacture, Storage and Import of Hazardous Chemical Rules 1989, as amended).

Not regulated

Hazardous Chemicals, Schedule 3: Threshold Quantities in an Industrial Installation (Manufacture, Storage and Import of Hazardous Chemical Rules 1989, as amended).

Not regulated

List of Hazardous Chemicals (Manufacture, Storage and Import of Hazardous Chemical Rules, Schedule I (Part II)).

Phosphoric Acid (CAS 7664-38-2)

Ozone Depleting Substances (ODS) (Ozone Depleting Substances (Regulation and Control) Rules 2000, Schedule 1).

Not regulated

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region

Australia

Canada

Canada

Inventory name

Australian Inventory of Chemical Substances (AICS)

Domestic Substances List (DSL)

Non-Domestic Substances List (NDSL)

On inventory (yes/no)*

Yes

Yes

No

SAFETY DATA SHEET

FLOGARD MS6209

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

NSF Registered and/or meets	Registration No. – 140901
USDA (according to 1998	Category Code(s):
guidelines):	G5 Cooling and retort water treatment products
	G7 Boiler, steam line treatment products – nonfood contact

16. Other information, including date of preparation or last revision

Issue date	Dec-22-2008
Revision date	21/09/2020
Version #	9.1
References:	No data available
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Information contained in this material data sheet is believed to be reliable but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. It is up to the manufacturer/seller to ensure that the information contained in the material safety data sheet is relevant to the product manufactured/handled or sold by him, as the case may be. The government makes no warranties expressed or implied in respect of the adequacy of this document for any particular purpose.
Revision information	Exposure controls/personal protection: Eye/face protection Physical & Chemical Properties: Multiple Properties

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