



P&WC

SAFETY DATA SHEET

FLOGARD MS6222 (Bioenhancer IF 975)

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

1.1. Product identifier

Trade name or designation of the mixture FLOGARD MS6222 (Bioenhancer IF 975)

Version number 3.2

Revision date 17/10/2019

Supersedes date 17/02/2018

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

Identified uses Water-based corrosion inhibitor

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

JV Process and Water Chemicals LLC

Address: Street V. Kadirov 10, Chirchik city,
Tashkent Region, Republic of Uzbekistan, 111727

Tel: +99871 209 10 40

Email address: info@pwch.uz

www.pwch.uz

1.4. Emergency telephone number

Multilingual emergency number (24/7)

Street V. Kadirov 10, Chirchik city,
Tashkent Region,
Republic of Uzbekistan, 111727

Tel: +99871 209 10 40

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards

| | | |
|---------------------|------------|------------------------------------|
| Corrosive to metals | Category 1 | H290 - May be corrosive to metals. |
|---------------------|------------|------------------------------------|

Health hazards

| | | |
|----------------------|------------|------------------------------|
| Acute toxicity, oral | Category 4 | H302 - Harmful if swallowed. |
|----------------------|------------|------------------------------|

| | | |
|---------------------------|-------------|---|
| Skin corrosion/irritation | Category 1B | H314 - Causes severe skin burns and eye damage. |
|---------------------------|-------------|---|

| | | |
|-----------------------------------|------------|-----------------------------------|
| Serious eye damage/eye irritation | Category 1 | H318 - Causes serious eye damage. |
|-----------------------------------|------------|-----------------------------------|

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Phosphoric acid



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Hazard pictograms



Signal word

Danger

Hazard statements

H290 May be corrosive to metals.
 H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.

Precautionary statements

Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

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.
 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 CENTRE/doctor.
 P390 Absorb spillage to prevent material-damage.

Storage

Not available.

Disposal

Not available.

Supplemental label information None.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

Mixtures

Chemical description Inorganic acid

| Chemical name | % | CAS-No. / EC No. | REACH Registration No. | Index No. | Notes |
|------------------------|--|------------------------|------------------------|--------------|-------|
| Phosphoric acid | >= 25 | 7664-38-2 231-633-2 | 01-2119485924-24 | 015-011-00-6 | # |
| Classification: | Met. Corr. 1;H290, Acute Tox. 4;H302, Skin Corr. 1B;H314 | | | | B |

The classification of the above substance(s) is given, including the hazard class, category code and hazard statements which are assigned in accordance with their physicochemical, health and environmental hazards. Please refer to section 16 where the full text of each relevant H-statement is listed.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately.

Eye contact Rinse immediately with plenty of water for at least 15 minutes. Keep eyelids apart. Get medical attention immediately.

Ingestion Rinse mouth. Do not give anything to eat or drink. Do not induce vomiting. Call a physician or poison control centre immediately.

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



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4.3. Indication of any immediate medical attention and special treatment needed Not available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture Oxides of phosphorus evolved in fire.
 Contact with metals may release flammable hydrogen gas.

5.3. Advice for firefighters

Special protective equipment for firefighters Self contained breathing apparatus. (CEN : EN 137)
 Protective clothing (CEN : EN 469)
 Protective gloves (CEN : EN 659)
 Helmet (CEN : EN 443)

Special fire fighting procedures Use standard firefighting procedures and consider the hazards of other involved materials.
 Prevent spillage and fire-fighting water from entering in public sewers or the immediate environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Wear protective clothing, gloves and safety goggles.

For emergency responders Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Prevent from entering sewers or the immediate environment.
 Accidental release of large quantities into the aquatic environment may harm aquatic organisms.

6.3. Methods and material for containment and cleaning up Absorb onto inert material and dispose of according to Hazardous Waste Regulations.
 Neutralise with soda ash.
 Remove small spills with plenty of water.

6.4. Reference to other sections Please refer also to section no. 8 'Exposure controls' for further information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Avoid contact with skin and eyes.
 Acidic. Do not mix with alkaline material.
 Do not breathe vapours.

7.2. Conditions for safe storage, including any incompatibilities Store containers closed when not in use.
 Do not freeze.
 If frozen, thaw completely and mix thoroughly prior to use.
 Store at temperatures below 35°C

7.3. Specific end use(s) Only for professional and industrial users

Shelf life 720 Days

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

| Components | Type | Value |
|---------------------------------|------|---------|
| Phosphoric acid (CAS 7664-38-2) | STEL | 2 mg/m3 |
| | TWA | 1 mg/m3 |



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EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

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

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

Recommended monitoring procedures Not available.

Derived no effect levels (DNELs)

Workers

| Components | Value | Assessment factor | Notes |
|---------------------------------|------------------------|-------------------|------------------------|
| Phosphoric acid (CAS 7664-38-2) | | | |
| Long-term, Local, Inhalation | 1 mg/m ³ | | Repeated dose toxicity |
| Long-term, Systemic, Inhalation | 10,7 mg/m ³ | 50 | Repeated dose toxicity |
| Short-term, Local, Inhalation | 2 mg/m ³ | | |

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Adequate ventilation to maintain air contaminants below exposure limits.
 Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

- Eye/face protection** Splash proof chemical goggles.
 Face shield.
 CEN : EN 166
- Skin protection**
- **Hand protection** Gauntlet type neoprene gloves (Protection against unintentional short-term contact)
 Gauntlet type nitrile gloves (Protection against unintentional short-term contact)
 Gauntlet type rubber gloves (Protection against unintentional short-term contact)
 Coating thickness: 0.11 mm
 Penetration time: > 480 min
 CEN : EN 374-1/2/3/4; EN 420
- **Other** Chemical resistant apron. Use of impervious boots is recommended. CEN : EN ISO 13688; EN ISO 6530; EN ISO 6529; EN 14605
- Respiratory protection** In case of insufficient ventilation, use a breathing mask with filter type: B2-P2
 CEN : EN 140; EN 14387
- Thermal hazards** Not available.

Environmental exposure controls Prevent from entering in public sewers or the immediate environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Colour Colourless to light yellow

Physical state Liquid

Odour Mild

Odour threshold Not available.

pH (concentrated product) < 1 Neat

pH in aqueous solution 1,2 (5% Solution)

Melting point/freezing point < -34 °C

Initial boiling point and boiling range Not available.

Flash point Not applicable.

Evaporation rate Slower than Ether



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Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapour pressure 15 mmHg

Vapour pressure temp. 21 °C

Vapour density > 1

Relative density 1,58

Relative density temperature 21 °C

Solubility

Solubility (water) 100 %

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not applicable.

Decomposition temperature Not available.

Viscosity 44 mPa.s

Viscosity temperature 21 °C

Explosive properties Not available.

Oxidising properties Not available.

9.2. Other information

Percent volatile 25

Pour point < -32 °C

Shelf life 720 Days

VOC 0 % Estimated

SECTION 10: Stability and reactivity

10.1. Reactivity Bases, alkalis (organic).
Metals.

10.2. Chemical stability Material is stable under normal conditions.

10.3. Possibility of hazardous reactions Not applicable.

10.4. Conditions to avoid Contact with metals may release flammable hydrogen gas.

10.5. Incompatible materials Avoid contact with strong bases.
Avoid contact with steel, aluminium, and zinc.

10.6. Hazardous decomposition products Oxides of phosphorus evolved in fire.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| Product | Test Results |
|---|--|
| FLOGARD MS6222 (Bioenhancer IF 975) (Mixture) | Acute Dermal LD50 Rabbit: 3650 mg/kg (Calculated according to GHS additivity formula) Acute Oral LD50 Rat: 400 mg/kg (Calculated according to GHS additivity formula) |
| Components | Test Results |
| Phosphoric acid (7664-38-2) | Acute Dermal LD50 Rabbit: 2740 mg/kg Acute Oral LD50 Rat: 300 mg/kg |
| Acute toxicity | Harmful if swallowed. |



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| | |
|---|---|
| Skin corrosion/irritation | Causes severe skin burns and eye damage. |
| Serious eye damage/irritation | Causes serious eye damage. |
| Respiratory or skin sensitisation | Based on available data, the classification criteria are not met. |
| Specific target organ toxicity - repeated exposure | Based on available data, the classification criteria are not met. |
| Specific target organ toxicity - single exposure | Based on available data, the classification criteria are not met. |
| Carcinogenicity | Based on available data, the classification criteria are not met. |
| Germ cell mutagenicity | Based on available data, the classification criteria are not met. |
| Reproductive toxicity | Based on available data, the classification criteria are not met. |

Information on likely routes of exposure

| | |
|---|---|
| Ingestion | Causes digestive tract burns. |
| Inhalation | May cause irritation to the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Skin contact | Causes severe skin burns. |
| Eye contact | Causes serious eye damage. |
| Symptoms | Not available. |
| Aspiration hazard | Based on available data, the classification criteria are not met. |
| Mixture versus substance information | None known. |
| Other information | Not available. |

SECTION 12: Ecological information

12.1. Toxicity

| Product | Species | Test Results | |
|---|---------|----------------|--|
| FLOGARD MS6222 (Bioenhancer IF 975) (CAS Mixture) | | | |
| Aquatic Crustacea | IC25 | Ceriodaphnia | 416,7 mg/l, Chronic Bioassay, 7 day, (pH adjusted) |
| | LC50 | Ceriodaphnia | 1387 mg/l, Static Renewal Bioassay, 48 hour, (pH adjusted) |
| | | Daphnia magna | 3540 mg/l, Static Renewal Bioassay, 48 hour, (pH adjusted) |
| | NOEL | Ceriodaphnia | 625 mg/l, Static Renewal Bioassay, 48 hour, (pH adjusted) |
| | | Daphnia magna | 125 mg/l, Chronic Bioassay, 7 day, (pH adjusted) |
| | Fish | LC50 | Fathead minnow |
| Rainbow trout | | | 4200 mg/l, Static Renewal Bioassay, 96 hour, (pH adjusted) |
| NOEL | | Fathead minnow | 7382 mg/l, Static Renewal Bioassay, 96 hour, (pH adjusted) |
| | | Rainbow trout | 2100 mg/l, Static Renewal Bioassay, 96 hour, (pH adjusted) |
| | | Rainbow trout | 5000 mg/l, Static Renewal Bioassay, 96 hour, (pH adjusted) |

12.2. Persistence and degradability

This product, being inorganic, has no TOC, BOD.



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| | |
|--|---|
| 12.3. Bioaccumulative potential | Not available. |
| Partition coefficient n-octanol/water (log Kow) | Not available. |
| Bioconcentration factor (BCF) | Not available. |
| 12.4. Mobility in soil | Not available. |
| 12.5. Results of PBT and vPvB assessment | Not a PBT or vPvB substance or mixture. |
| 12.6. Other adverse effects | Not available. |

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|------------------------------|--|
| Contaminated packaging | According to Hazardous Waste Regulations. EWC (European Waste Code) recommendation : 15 01 10 15 Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified. 15 01 Packaging (including separately collected municipal packaging waste). 15 01 10 Packaging containing residues of or contaminated by dangerous substances. Depending on the origin and state of the waste, other EWC numbers may be applicable too. |
| Disposal methods/information | According to Hazardous Waste Regulations. EWC (European Waste Code) recommendation : 06 01 04 06 Wastes from inorganic chemical processes. 06 01 Wastes from the manufacture, formulation, supply and use (MFSU) of acids. 06 01 04 Phosphoric and phosphorous acid. Depending on the origin and state of the waste, other EWC numbers may be applicable too. |

SECTION 14: Transport information

ADR

| | |
|---------------------------------------|---------------------------|
| 14.1. UN number | UN1805 |
| 14.2. UN proper shipping name | PHOSPHORIC ACID, SOLUTION |
| 14.3. Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| Tunnel restriction code | (E) |
| 14.4. Packing group | III |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Not available. |

RID

| | |
|---------------------------------------|---------------------------|
| 14.1. UN number | UN1805 |
| 14.2. UN proper shipping name | PHOSPHORIC ACID, SOLUTION |
| 14.3. Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| 14.4. Packing group | III |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Not available. |

ADN

| | |
|----------------------------------|---------------------------|
| 14.1. UN number | UN1805 |
| 14.2. UN proper shipping name | PHOSPHORIC ACID, SOLUTION |
| 14.3. Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |

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14.4. Packing group III
14.5. Environmental hazards No.
14.6. Special precautions for user Not available.

IATA

14.1. UN number UN1805
14.2. UN proper shipping name PHOSPHORIC ACID, SOLUTION
14.3. Transport hazard class(es)
Class 8
Subsidiary risk -
14.4. Packing group III
14.5. Environmental hazards No.
ERG Code Not available.
14.6. Special precautions for user Not available.

IMDG

14.1. UN number UN1805
14.2. UN proper shipping name PHOSPHORIC ACID, SOLUTION
14.3. Transport hazard class(es)
Class 8
Subsidiary risk -
14.4. Packing group III
14.5. Environmental hazards
Marine pollutant No.
EmS F-A, S-B
14.6. Special precautions for user Not available.
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code This substance/mixture is not intended to be transported in bulk.

ADN; ADR; IATA; IMDG; RID



SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.



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Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

National regulations

Not available.

15.2. Chemical safety assessment

Not available.

Inventory status

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |

*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).

SECTION 16: Other information

List of abbreviations

COD: Chemical Oxygen Demand
EC-No: European Commission Number
IATA: International Air Transport Association
IMDG Code: International Maritime Dangerous Goods Code.
CAS: Chemical Abstract Service.
CLP: Classification, Labeling and Packaging REGULATION (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures.
CEN: European Committee for Standardization (Comité Européen de Normalisation).
TWA: Time Weighted Average.
STEL: Short-term Exposure Limit.
LD50: Lethal Dose 50%.
LC50: Lethal Concentration 50%.
EC50: Effective Concentration 50%.
NOEL: No observed effect level.
BOD: Biochemical oxygen demand.
TOC: Total Organic Carbon.
ADR: European agreement concerning the international carriage of dangerous goods by road (Accord européen relatif transport des marchandises dangereuses par route).
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures).



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Previous Date: 17/02/2018

References

Information on evaluation method leading to the classification of mixture

RID: Regulations concerning the international carriage of dangerous goods by rail (Règlement International concernant le transport de marchandises dangereuses par chemin de fer).

Safety data sheets of raw materials.

Full text of any H-statements not written out in full under Sections 2 to 15

The physical, health and environmental hazards of this mixture are assessed by applying the classification criteria for each hazard class or differentiation in Parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008 (CLP).

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.

Training information

Provide training on safe handling while considering the type of application and exposure scenarios.

Based on EC Directive / Regulations

(EC) No 1907/2006 (REACH)

(EC) No 1272/2008

(EU) 2015/830

(EU) No 1357/2014

Further information

Correction in Section: 2,8,11