FIRE RETARDANT ADDITIVES

Safety Data Sheet

Safire® 400

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03
Canadian Workplace Hazardous Material Information System (WHMIS) 2015
Mexico NOM-018-STPS-2000; NOM-018-STPS-2015
GHS (Globally Harmonized System)

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

1.1. Product identifier

Product Name:	Safire® 400
Pure substance/mixture	Substance

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

Recommended Use	Smoke suppressant Flame retardant No consumer use allowed.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Company:	J.M. Huber Corporation 3100 Cumberland Boulevard, Suite 600 Atlanta, GA 30339 USA Tel: +1 678 247-7300
Internet	www.hubermaterials.com
E-mail	hubermaterials@huber.com

1.4. Emergency telephone number

CHEMTREC: +1 800 424 9300 or International +1 703 527 3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

OSHA Regulatory Status	Hazardous to the aquatic environment - Chronic, category 2
Physical Hazards	Not classified
Health Hazards	Not classified
Environmental Hazard	Hazardous to the aquatic environment - Chronic, category 2

2.2. Label elements

Symbols/Pictograms



Signal Word	None
Hazard Statements	Toxic to aquatic life with long lasting effects

Precautionary Statements

Prevention	Employ good industrial hygiene practice Do not handle until all safety precautions have been read and understood Do not breathe dust/fume/gas/mist/vapors/spray Wear protective gloves/protective clothing/eye protection/face protection For operations where exposure to dust may occur, wear a NIOSH N95 respirator
Response	IF ON SKIN: Wash with plenty of soap and water Get medical advice/attention if you feel unwell
Storage	Store away from incompatible materials
Disposal	Dispose of contents/containers in accordance with local regulations
Additional Information:	According to the U.S. Environmental Protection Agency this substance presents a concern for hazard to the aquatic environment and reproductive toxicity.
Hazards not otherwise classified (HNOC)	Do not allow into any sewer, on the ground or into any body of water.
Other	According to the U.S. Environmental Protection Agency this substance presents a concern for hazard to the aquatic environment and reproductive toxicity.

SECTION 3: Composition/information on ingredients

Pure substance/mixture Substance

Chemical Name	CAS Number	TSCA: United States	Canada (DSL)	Mexico	EU REACH registration number	OSHA Regulatory Status	WHMIS	Weight-%
Melamine poly(zinc phosphate)	1271172-98-5	PMN P-16-0484	N	N	01-2120116104-75-xxxx 04-2120862008-56-0000 (PPORD)	Regulated	--	95.0 - 100.0

Legend
X / Y: Complies ; A: Active ; - / N: Exempt / Not Listed

SECTION 4: First aid measures

4.1. Description of first aid measures

General Advice Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Eye Contact In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact IF ON SKIN: Wash with plenty of soap and water. Remove contaminated clothing and shoes.

Ingestion Rinse mouth thoroughly with water. If conscious, drink plenty of water.

Inhalation Do not breathe dust. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Aspiration hazard Not applicable. Solid.

4.2. Most important symptoms and effects, both acute and delayed May cause skin, eye, and respiratory tract irritation.

4.3. Indication of any immediate medical attention and special treatment needed Treatment should be symptomatic and supportive.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media
Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO2).

Unsuitable Extinguishing Media
None known.

5.2. Special hazards arising from the substance or mixture
None known.

5.3. Advice for firefighters

Special protective equipment for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing.

Fire-fighting measures
In case of fire and/or explosion do not breathe fumes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid dust formation. Keep unauthorized personnel away.
For non-emergency personnel	Keep unauthorized personnel away.
For emergency responders	Keep unauthorized personnel away. Use personal protection recommended in Section 8.
6.2. Environmental precautions	Do not allow to enter into surface water or drains.
6.3. Methods and material for containment and cleaning up	Large Spill: Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust Small Spill: Vacuum or sweep material and place in a disposal container
6.4. Reference to other sections	Section 8: Exposure controls and personal protection. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Minimize dust generation and accumulation. Provide local exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. See section 8 for more information.

7.2. Conditions for safe storage, including any incompatibilities Store away from incompatible materials. Keep container tightly closed and dry.

7.3. Specific end use(s) No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

PNEC (Predicted No Effect Concentration) No information available

DNEL (Derived No Effect Level) No data available

Biological Limit Values No information available

8.2. Exposure controls

Engineering Measures Ensure adequate ventilation, especially in confined areas. Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

Personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles).

Skin and Body Protection Wear suitable protective clothing.

Hand Protection For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.

Respiratory Protection In case of inadequate ventilation wear respiratory protection.

Thermal hazards None known.

Hygiene Measures Follow general hygiene considerations recognized as common good workplace practices. The worker should wash daily at the end of each work shift, and prior to eating, drinking, smoking, etc.

Environmental Exposure Controls Dispose of in accordance with local regulations. Do not empty into drains or water courses.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Appearance:

Physical State	Solid Powder
Color	White to light yellow
Odor	None
Odor Threshold	No information available
pH:	5.0 - 5.5 , < / =0.3% suspension - Water
Melting point / Freezing point	> 650 °C
Initial boiling point and boiling range	Not applicable Solid
Freezing Point	Not applicable
Flash Point	Not applicable Solid
Evaporation Rate	Not applicable. Solid.
Flammability (solid, gas)	Not readily flammable ----- Solid - (EU A10)
Upper flammability limit:	--
Lower flammability limit:	--
Vapor Pressure	No data available
Vapor Density	Not applicable Solid
Density	No data available
Bulk Density	0.51 +/- 0.3 g/ml
Relative Density	2.4 +/- 0.3 g/cm³ (20 °C)
Water Solubility	0.1 to 100 mg/L Slightly soluble
Solubility in other solvents	No data available
Partition coefficient	No information available (25 °C)
Autoignition Temperature	> 1000 °C
Decomposition Temperature	>325 °C
Viscosity	Not applicable. Solid.
Kinematic viscosity	Not applicable
Explosive Properties	Not applicable
Oxidizing Properties	Not oxidizing
Particle Size	D50 = 2.5 – 4.0 microns (80% below 10 microns)
VOC Content (%)	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity	Stable under normal conditions
10.2. Chemical stability	Stable under normal conditions
10.3. Possibility of hazardous reactions	No specific hazard known
10.4. Conditions to avoid	Incompatible materials Strong oxidizing agents alkali
10.5. Incompatible materials	Strong acids

10.6. Hazardous decomposition products None known

SECTION 11: Toxicological information

General Information Users are advised to consider national Occupational Exposure Limits or other equivalent values.

11.1. Information on toxicological effects

Respiratory Sensitization	Based on available data, the classification criteria are not met
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met
Skin Corrosion/Irritation	Based on available data, the classification criteria are not met
Skin Sensitization	Based on available data, the classification criteria are not met
Mutagenicity	Based on available data, the classification criteria are not met
Reproductive Toxicity	According to the U.S. Environmental Protection Agency this substance presents a concern for hazard to the aquatic environment and reproductive toxicity.
Carcinogenicity	Based on available data, the classification criteria are not met.
Other	According to the U.S. Environmental Protection Agency this substance presents a concern for hazard to the aquatic environment and reproductive toxicity.

Information on Likely Routes of Exposure

Inhalation	Avoid inhalation of the product
Ingestion	Ingestion is not a likely route of exposure
Skin	Avoid prolonged or repeated contact with skin
Eyes	Avoid contact with eyes Dust contact with the eyes can lead to mechanical irritation
Aspiration hazard	Not applicable. Solid.

11.2. Information on other hazards

11.2.1. Endocrine disrupting This product does not contain any known or suspected endocrine disruptors

properties

11.2.2. Other information Not applicable

SECTION 12: Ecological information

12.1. Toxicity Not considered to be harmful to aquatic life

Melamine poly(zinc phosphate)
WGK Classification (AwSV) WGK not established

12.2. Persistence and degradability Not readily biodegradable. (OECD 301 B).

12.3. Bioaccumulative potential

Bioconcentration factor (BCF) No data available.

12.4. Mobility in soil None.

12.5. Results of PBT and vPvB assessment This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal Methods Disposal should be in accordance with applicable regional, national and local laws and regulations. Send to a licensed recycler, reclaimer or incinerator. Avoid release to the environment. Do not allow to enter into surface water or drains.

Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

Waste codes Waste codes should be assigned by the user based on the application for which the product was used

Melamine poly(zinc phosphate)
WGK Classification (AwSV) WGK not established

SECTION 14: Transport information

Mode of Transportation (Road, Water, Air, Rail)

TDG -Canada	Not regulated
DOT	UN3077, Environmentally hazardous substance, solid, n.o.s. Melamine poly(zinc phosphate), 9, PG III, Marine Pollutant, Not regulated in non-bulk packages (<119 gal)
ADR	UN3077, Environmentally hazardous substance, solid, n.o.s. Melamine poly(zinc phosphate), 9, PG III, Marine Pollutant
IATA	UN3077, Environmentally hazardous substance, solid, n.o.s. Melamine poly(zinc phosphate), 9, PG III, Marine Pollutant
IMDG/IMO	UN3077, Environmentally hazardous substance, solid, n.o.s. Melamine poly(zinc phosphate), 9, PG III, Marine Pollutant
ICAO	UN3077, Environmentally hazardous substance, solid, n.o.s. Melamine poly(zinc phosphate), 9, PG III, Marine Pollutant

14.1. UN number or ID number	None
14.1. UN number	UN3077
14.2. UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. Melamine poly(zinc phosphate)
14.3. Transport hazard class(es)	9
14.4. Packing group	III
14.5. Environmental hazards	Toxic to aquatic life with long lasting effects
14.6. Special precautions for user	Do not handle until all safety precautions have been read and understood.

14.7. Maritime transport in bulk according to IMO instruments



Marine Pollutant



SECTION 15: Regulatory information

Global Inventories

Pure substance/mixture Substance

Chemical Name	CAS Number	EC No	EU REACH registration number	Australia (AIIC)	Canada (DSL)	China (IECSC)	Japan	S. Korea (KECL)	Mexico	New Zealand	Philippines (PICCS)	Taiwan	TSCA: United States
Melamine poly(zinc phosphate)	1271172-98-5	690-512-6	01-2120116104-75-xxxx 04-2120862008-56-0000 (PPORD)	Y	N	新常登 C-21104	N	N	N	N	N	N	PMN P-16-0484

Legend
X / Y: Complies ; A: Active ; - / N: Exempt / Not Listed

US Federal Regulations

EPA

TSCA - Significant New Use Rule (SNUR)
EPA has issued a Significant New Use Rule (SNUR) for Safire 400 at 40 C.F.R. §721.11190. The significant new uses are: (1) use other than as a flame-retardant additive in plastics; (2) release of a processing or use stream associated with any use of Safire 400 exceeding a surface water concentration of 34 ppb; and (3) processing or use of Safire 400 without employing the following engineering controls to limit exposure to dust: ventilation and negative-pressure systems with local exhaust (e.g., elephant trunks), and baghouse filtration, and enclosed unloading and transfer systems. Also, although not explicitly specified in the SNUR, we remind you that the product SDS recommends the use of an NIOSH-approved N95 dust respirator for workers potentially exposed to dusts containing Safire 400. You must also maintain records documenting compliance with the use limitations, i.e, use as a flame-retardant additive in plastics, and the use of the engineering controls described above to limit exposure to dust; records documenting establishment and implementation of procedures that ensure compliance with the 34 ppb water discharge limitation, records documenting volumes of Safire 400 you purchased in the

United States, the names and addresses of suppliers, and the corresponding dates of purchase, and records documenting the names and addresses (including shipment destination address, if different) of all persons to whom you directly sell or transfer Safire 400, the date of each sale or transfer, and the quantity of Safire 400 sold or transferred on such date. Finally, if you export or intend to export Safire 400 on or after May 6, 2019 you are subject to the export notification provisions of TSCA section 12(b) (15 U.S.C. 2611(b)) (see § 721.20), and must comply with the export notification requirements in 40 CFR part 707, subpart D.

CWA (Clean Water Act)
Not listed

CAA (Clean Air Act)
Not listed

U.S. State Right-to-Know Regulations

Chemical Name	CAS Number	California Proposition 65	Massachusetts	Minnesota	New Jersey	Pennsylvania
Melamine poly(zinc phosphate)	1271172-98-5	No	No	No	No	No

Legend Y: Listed ; N: Not Listed

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)
This product does not contain any Proposition 65 chemicals

CANADA

WHMIS
This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

SECTION 16: Other information

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Reason for Version OSHA (Occupational Safety and Health Administration of the US Department of Labor).

Training Advice Do not handle until all safety precautions have been read and understood.

Abbreviations and acronyms
IARC (International Agency for Research on Cancer)
IATA (International Air Transport Association)
IMDG (International Maritime Dangerous Goods)
IUCLID (International Uniform Chemical Information Database)
WHMIS (Workplace Hazardous Materials Information System)
DOT (Department of Transportation)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
TWA (Time-Weighted Average)
CLP (The Classification, Labeling and Packaging of Substances and Mixtures Regulation (EC

1272/2008))
PPE (Personal Protection Equipment)
NIOSH (National Institute for Occupational Safety and Health)
TDG (Transport of Dangerous Goods) Canada
CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)
RQ (Reportable Quantity) (RQ/% in mixture)
STEL (Short Term Exposure Limit)
TLV® (Threshold Limit Value)
DNEL (Derived No Effect Level)
SVHC (Substances of Very High Concern)
BOD (Biochemical oxygen demand)
COD (Chemical oxygen demand)
ICAO (International Civil Aviation Organization)
IMDG (International Maritime Dangerous Goods)
ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
RID (Agreement Concerning the International Carriage of Dangerous Goods by Rail)
SCBA (Self-Contained Breathing Apparatus) Positive Pressure
GHS (Globally Harmonized System)
SARA (Superfund Amendments and Reauthorization Act of 1986)
TSCA (Toxic Substances Control Act)

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

End of Safety Data Sheet