


# SAFETY DATA SHEET

## 1. Identification

Product identifier	Hye-Green 2-18-40
Other means of identification	
Product code	31022
Recommended use	Agricultural/ Horticultural Use- Micronutrient Fertilizer- Refer to product label.
Recommended restrictions	Refer to product label.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Manufacturer</b>	
Distributor:	GAR Bennett LLC
Address	8246 S. Crawford Reedley, CA 93654 United States
Telephone:	
Days	(559) 638-6311
Evenings	(559) 908-9884
CHEMTREC (24 Hours):	
USA, Canada, Puerto Rico	1-800-424-9300
Virgin Islands	1-800-424-9300
International Maritime	+1 (703) 527-3887

## 2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Serious eye damage/eye irritation	Category 2A
	Reproductive toxicity	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	
Label elements		
Signal word	Warning	
Hazard statement	Harmful if swallowed. Causes serious eye irritation. Suspected of damaging fertility or the unborn child. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.	
Precautionary statement		
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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: Call a poison center/doctor if you feel unwell. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.	
Storage	Store locked up.	

<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Mono potassium phosphate (MKP)		7778-77-0	30 - < 40*
Potassium Nitrate		7757-79-1	10 - < 20*
Manganese Sulfate, monohydrate		10034-96-5	< 1*
Copper Sulfate (pentahydrate)		7758-99-8	0.4
Disodium Octaborate Tetrahydrate		12008-41-2	< 0.3*
Zinc Sulfate		7733-02-0	< 0.3*
Other components below reportable levels			40 - < 50

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

### 4. First-aid measures

<b>Inhalation</b>	If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Severe eye irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	IF exposed or concerned: Get medical advice/attention. 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

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Use water spray to cool unopened containers.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust from the spilled material. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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**Methods and materials for containment and cleaning up**

This product is miscible in water. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Collect dust using a vacuum cleaner equipped with HEPA filter. Following product recovery, flush area with water. Sweep up or vacuum up spillage and collect in suitable container for disposal. Minimize dust generation and accumulation. 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. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

**7. Handling and storage****Precautions for safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not taste or swallow. Avoid breathing dust. Avoid contact with eyes. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Pregnant or breastfeeding women must not handle this product. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. Practice good housekeeping.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Store in original tightly closed container. Keep container tightly closed. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

**8. Exposure controls/personal protection****Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Manganese Sulfate, monohydrate (CAS 10034-96-5)	Ceiling	5 mg/m3

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Copper Sulfate (pentahydrate) (CAS 7758-99-8)	TWA	1 mg/m3	Dust and mist.
Disodium Octaborate Tetrahydrate (CAS 12008-41-2)	STEL	0.2 mg/m3	Fume.
		6 mg/m3	Inhalable fraction.
Manganese Sulfate, monohydrate (CAS 10034-96-5)	TWA	2 mg/m3	Inhalable fraction.
	TWA	0.1 mg/m3	Inhalable fraction.
		0.02 mg/m3	Respirable fraction.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value	Form
Copper Sulfate (pentahydrate) (CAS 7758-99-8)	TWA	1 mg/m3	Dust and mist.
Manganese Sulfate, monohydrate (CAS 10034-96-5)	STEL	3 mg/m3	Fume.
	TWA	1 mg/m3	Fume.

**Biological limit values**

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

**Appropriate engineering controls**

Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. Provide eyewash station.

**Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Use tight fitting goggles if dust is generated. Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves.
<b>Other</b>	Wear suitable protective clothing. Use of an impervious apron is recommended.
<b>Respiratory protection</b>	Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	When using, do not eat, drink or smoke. 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**

<b>Appearance</b>	Solid. Crystalline.
<b>Physical state</b>	Solid.
<b>Form</b>	Powder. Crystalline.
<b>Color</b>	Light green
<b>Odor</b>	None.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	752 °F (400 °C) estimated
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	0.00001 hPa estimated
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Soluble
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.

**10. Stability and reactivity**

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful. Inhalation of dusts may cause respiratory irritation.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Causes serious eye irritation. Dust in the eyes will cause irritation.
<b>Ingestion</b>	Harmful if swallowed.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Severe eye irritation.

### Information on toxicological effects

<b>Acute toxicity</b>	Harmful if swallowed. Not known.
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Product	Species	Test Results
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Hye-Green 2-18-40

#### Acute

#### **Dermal**

LD50	Rat	4938 mg/kg estimated
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#### **Inhalation**

LC50	Rat	3 mg/l, 192 hours estimated
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LD50	Rat	1000 mg/l estimated
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#### **Oral**

LD100	Mouse	92424 mg/kg estimated
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LD50	Mouse	4585 mg/kg estimated
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	Rabbit	7815 mg/kg estimated
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	Rat	4776 mg/kg estimated
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Components	Species	Test Results
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Copper Sulfate (pentahydrate) (CAS 7758-99-8)

#### Acute

#### **Oral**

LD50	Rat	330 mg/kg
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Disodium Octaborate Tetrahydrate (CAS 12008-41-2)

#### Acute

#### **Dermal**

LD50	Rabbit	> 2000 mg/kg
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#### **Oral**

LD50	Guinea pig	5300 mg/kg
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	Rat	2550 mg/kg
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2 g/kg

Manganese Sulfate, monohydrate (CAS 10034-96-5)

#### Acute

#### **Oral**

LD100	Mouse	305 mg/kg
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Mono potassium phosphate (MKP) (CAS 7778-77-0)

#### Acute

#### **Oral**

LD50	Mouse	1700 mg/kg
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Components	Species	Test Results
Potassium Nitrate (CAS 7757-79-1)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rabbit	1166 mg/kg
Zinc Sulfate (CAS 7733-02-0)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rat	> 2000 mg/kg
<b>Oral</b>		
LD50	Rat	623 mg/kg

\* Estimates for product may be based on additional component data not shown.

<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation. Dust in the eyes will cause irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not available.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>	
	Not listed.
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	
	Not regulated.
<b>US. National Toxicology Program (NTP) Report on Carcinogens</b>	
	Not listed.
<b>Reproductive toxicity</b>	Suspected of damaging fertility or the unborn child.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not available.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

Product	Species	Test Results
Hye-Green 2-18-40		
<b>Aquatic</b>		
Crustacea	EC50 Daphnia	1278.929 mg/l, 48 hours estimated
Fish	LC50 Fish	156.2383 mg/l, 96 hours estimated
Components	Species	Test Results
Copper Sulfate (pentahydrate) (CAS 7758-99-8)		
<b>Aquatic</b>		
Crustacea	EC50 Water flea (Daphnia magna)	0.0058 - 0.0073 mg/l, 48 hours
Fish	LC50 Bluegill (Lepomis macrochirus)	0.66 - 1.15 mg/l, 96 hours
Disodium Octaborate Tetrahydrate (CAS 12008-41-2)		
<b>Aquatic</b>		
<b>Acute</b>		
Crustacea	LC50 Daphnia magna	619 mg/l

Components		Species	Test Results
Fish	LC50	Pimephales promelas	370 mg/l
Manganese Sulfate, monohydrate (CAS 10034-96-5)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea (Daphnia obtusa)	30.8 - 44.1 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	36.9 mg/l, 96 hours
			29.7 - 52.7 mg/l, 192 hours
Potassium Nitrate (CAS 7757-79-1)			
<b>Aquatic</b>			
Fish	LC50	Bluegill (Lepomis macrochirus)	1200 mg/l, 96 hours
<i>Acute</i>			
Fish	LC50	Fish	1378 - 3000 mg/l
Zinc Sulfate (CAS 7733-02-0)			
<b>Aquatic</b>			
Algae	LC50	Green algae (Chlorella vulgaris)	5 mg/l, 24 hours
Crustacea	EC50	Amphipod (Crangonyx pseudogracilis)	15.1 - 24.5 mg/l, 96 hours
		Rotifer (Philodina acuticornis)	0.5 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	10.62 - 11.3 mg/l, 5 days
			0.168 - 0.25 mg/l, 96 hours
		Fish (Lepidocephalichthys guntea)	76 - 118.8 mg/l, 24 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** Not 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.

### 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.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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

### 14. Transport information

#### DOT

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.

#### IMDG

Not regulated as dangerous goods.

### 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Manganese Sulfate, monohydrate (CAS 10034-96-5) Listed.  
Zinc Sulfate (CAS 7733-02-0) Listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**  
Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Potassium Nitrate	7757-79-1	10 - < 20

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Manganese Sulfate, monohydrate (CAS 10034-96-5)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations****US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. Massachusetts RTK - Substance List**

Copper Sulfate (pentahydrate) (CAS 7758-99-8)  
Potassium Nitrate (CAS 7757-79-1)  
Zinc Sulfate (CAS 7733-02-0)

**US. New Jersey Worker and Community Right-to-Know Act**

Copper Sulfate (pentahydrate) (CAS 7758-99-8)  
Disodium Octaborate Tetrahydrate (CAS 12008-41-2)  
Manganese Sulfate, monohydrate (CAS 10034-96-5)  
Potassium Nitrate (CAS 7757-79-1)  
Zinc Sulfate (CAS 7733-02-0)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Copper Sulfate (pentahydrate) (CAS 7758-99-8)  
Potassium Nitrate (CAS 7757-79-1)  
Zinc Sulfate (CAS 7733-02-0)

**US. Rhode Island RTK**

Manganese Sulfate, monohydrate (CAS 10034-96-5)  
Potassium Nitrate (CAS 7757-79-1)  
Zinc Sulfate (CAS 7733-02-0)

**US. California Proposition 65**

**WARNING:** This product can expose you to chemicals including arsenic, cadmium, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No

Material name: Hye-Green 2-18-40

31022 Version #: 05 Revision date: 12/29/2022 Issue date: 12/29/2022

SDS US

8 / 9



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

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

**Issue date** 02-12-2016

**Revision date** 08-07-2018

**Version #** 04

**Disclaimer** The information provided in this Safety Data Sheet is correct to the best of Manufacturer's knowledge, information and belief at the date of its publication; however, it is provided only as a guidance for safe handling, use, processing, storage, transportation, disposal and release of the Product. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made with respect to the Product or the information provided herein, or that the Product or information herein may be used without infringing the intellectual property rights of others. The information provided in this Safety Data Sheet relates only to the specific Product designated and may not be valid if the Product is used in combination with other materials or in any other process, unless specified herein. The user assumes all risk and liability for loss, injury, damage or expense due to any use, handling, storage or disposal of the Product, and Manufacturer recommends that the user conducts its own tests of the Product to determine suitability of the Product for user's particular use.

**Revision information** Hazard(s) identification: Supplemental information  
Regulatory information: California Prop 65