



Safety Data Sheet (SDS)

North American (U.S. and Canada)

Revision date: 2018-10-18

SECTION 1: Identification

Product identifiers:

Product trade name: GOOD-RITE* 3114 FFS Antioxidant
Company product number: 3114FFS
Other means of identification: Not Available

Recommended use of the chemical and restrictions on use:

Uses: Antioxidant for polymeric materials.
Restrictions on use: None identified

Details of the supplier:

Manufacturer/Supplier: Emerald Performance Materials, LLC
1499 SE Tech Center Place, Suite 300
Vancouver, WA 98683
United States
Telephone: +1-360-954-7100
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For further information about this SDS: Email: product.compliance@emeraldmaterials.com

Emergency telephone number:

ChemTel (24 hours): 1-800-255-3924 (USA); +1-813-248-0585 (outside USA);
1-300-954-583 (Australia); 000-800-100-4086 (India).

SECTION 2: Hazard(s) identification

Information in accordance with U.S. 29 CFR 1910.1200 (Hazcom 2012) and Canada Hazardous Products Regulations (WHMIS 2015):

Classification of the product:

Combustible Dust

Label elements:

Hazard pictogram(s): Not Applicable

Signal word:

Warning

Hazard statements:

USH001 May form combustible dust concentrations in air.

Precautionary statements: Not Applicable

Supplemental information: No Additional Information

Hazards not otherwise classified:

Physical hazards not otherwise classified: No Additional Information

Health hazards not otherwise classified: No Additional Information

See Section 11 for toxicological information.

SECTION 3: Composition/information on ingredients

Substance:

No Hazardous Components found under applicable regulations.

Notes: Trace amounts of formaldehyde (below 100 ppm) may be present.

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

SECTION 4: First-aid measures

Description of first aid measures:

General: If irritation or other symptoms occur or persist from any route of exposure, remove the affected individual from the area: see a physician/get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. Get medical attention if symptoms occur.

Skin contact: Wash the affected area thoroughly with plenty of soap and water. Get medical attention if symptoms occur.

Inhalation: If affected, remove to fresh air. Get medical attention if symptoms occur.

Ingestion: Get medical attention if symptoms occur.

Protection of first aid responders: Wear proper personal protective clothing and equipment.

Most important symptoms and effects, both acute and delayed: Irritation. Pre-existing skin problems may be aggravated by prolonged or repeated contact. Persons with sensitive airways (e.g., asthmatics) may react to airborne dust or vapors. See section 11 for additional information.

Indication of any immediate medical attention and special treatment needed, if necessary: Treat symptomatically.

SECTION 5: Fire-fighting measures

NFPA flammability class: N/A (Combustible solid)

Extinguishing media:

Suitable: Use water spray, dry chemical, or foam. Carbon dioxide may be ineffective on larger fires due to a lack of cooling capacity which may result in reignition.

Unsuitable: Avoid hose streams or any method which will create dust clouds.

Special hazards arising from the chemical:

Unusual fire/explosion hazards: Concentrated dust/air combinations may produce explosive conditions. As with all organic dusts, fine particles suspended in air in critical proportions and in the presence of an ignition source may ignite and/or explode. Dust may be sensitive to ignition by electrostatic discharge, electrical arcs, sparks, welding torches, cigarettes, open flame, or other significant heat sources. As a precaution, implement standard safety measures for handling finely divided organic powders. See Section 7 for suggested measures.

Hazardous combustion products: Irritating or toxic substances will be emitted upon burning, combustion or decomposition. See section 10 (Hazardous decomposition products) for additional information.

Special protective equipment and precautions for fire-fighters: Avoid hose streams or any method which will create dust clouds. Wear self-contained breathing apparatus (SCBA) equipped with a full facepiece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing. Personnel without suitable respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning or decomposition. In an enclosed or poorly ventilated area, wear SCBA during clean-up immediately after a fire as well as during the attack phase of firefighting operations.

See section 9 for additional information.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: See Section 8 for recommendations on the use of personal protective equipment. If spilled in an enclosed area, ventilate. Avoid raising powdered material due to explosion hazard. Use spark-proof and explosion-proof equipment. If inhalation of dust cannot be avoided, wear an approved particulate respirator.

Environmental precautions: Do not flush product into public sewer, water systems or surface waters.

Methods and materials for containment and cleaning up: Contain spill. Wear proper personal protective clothing and equipment. Using care to avoid dust generation, vacuum or sweep into a closed container for reuse or disposal. Use approved industrial vacuum cleaner for removal. Avoid causing dust. Place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse.

SECTION 7: Handling and storage

Precautions for safe handling: As with any chemical product, use good laboratory/workplace procedures. Wash thoroughly after handling this product. Always wash up before eating, smoking or using the facilities. Use under well-ventilated conditions. Avoid eye and skin contact. Avoid drinking, tasting, swallowing or ingesting this product. Avoid routine inhalation of dust of any kind. Exercise care when emptying containers, sweeping, mixing or doing other tasks which can create dust. Wash contaminated clothing before reuse. Provide eyewash fountains and safety showers in the work area. As a precaution to control dust explosion potential, implement the following safety measures: Eliminate ignition sources (e.g., sparks, static buildup, excessive heat, etc.). In general, dust of organic materials is a static charge generator which may be ignited by electrostatic discharge, electrical arcs, sparks, welding torches, cigarettes, open flame, or other significant heat sources. Use spark-proof tools and equipment. Bond, ground and properly vent conveyors, dust control devices and other transfer equipment. Prohibit flow of polymer, powder or dust through non-conductive ducts, vacuum hoses or pipes, etc.; only use grounded, electrically conductive transfer lines when pneumatically conveying product. Good housekeeping and controlling of dusts are necessary for safe handling of product. Prevent accumulation of dust (e.g., well-ventilated conditions, promptly vacuuming spills, cleaning overhead horizontal surfaces, etc.). A properly engineered explosion suppression system must be considered. See standards such as the National Fire Protection Association NFPA 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids"; NFPA 69, "Standard on Explosion Prevention Systems"; NFPA 68, "Standard on Explosion Protection by Deflagration Venting"; NFPA 77, "Recommended Practice on Static Electricity" and other standards as the need exists.

Conditions for safe storage, including any incompatibilities: Store cool and dry, under well-ventilated conditions. Store this material away from incompatible substances (see section 10). Do not store in open, unlabeled or mislabeled containers. Keep container closed when not in use.

SECTION 8: Exposure controls / personal protection

Control parameters:

Occupational exposure limits (OEL): No applicable exposure limits.

PNOS: ACGIH has recommended the following exposure limits for Particulates (insoluble or poorly soluble) not otherwise specified (PNOS): 10 mg/m³ TWA (inhalable particles), 3 mg/m³ TWA (respirable particles). OSHA exposure limits for Particulates not otherwise regulated are 15 mg/m³ TWA (total dust) and 5 mg/m³ TWA (respirable fraction).

Exposure controls:

Appropriate engineering controls: Always provide effective general and, when necessary, local exhaust ventilation to draw dust away from workers to prevent routine inhalation. Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS. Eliminate ignition sources (e.g., sparks, static buildup, excessive heat, etc.). Prohibit flow of powder or dust through non-conductive ducts, vacuum hoses, or pipes, etc. Bond, ground, and properly vent conveyors, dust control devices and other transfer equipment. (Ventilation guidelines/techniques may be found in publications such as Industrial Ventilation: American Conference of Governmental Industrial Hygienists, 1330 Kemper Meadow Drive, Cincinnati, OH, 45240-1634, USA.) (<http://www.acgih.org/home.htm>).

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

Eye/face protection: Wear eye protection.

Skin and body protection: Wear protective gloves. Use good laboratory/workplace procedures including personal protective clothing: labcoat, safety glasses and protective gloves.

Respiratory protection: Respiratory protection is not needed with proper ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. If inhalation of dust cannot be avoided, wear an approved particulate respirator. Use respirator in accordance with manufacturer's use limitations and OSHA standard 1910.134 (29CFR).

Further information: Eyewash fountains and safety showers are recommended in the work area.

SECTION 9: Physical and chemical properties

Form: Flake pH: Not Available

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Appearance:	White	Relative density:	1.03 @ 20°C
Odor:	Negligible	Partition coefficient (n-octanol/water):	log Pow >6
Odor threshold:	Not Available	% Volatile by weight:	<0.5%
Solubility in water:	< 1 ppm @ 20°C	VOC:	<0.5%
Evaporation rate:	Not Available	Boiling point °C:	Not Available
Vapor pressure:	5 x 10 (-15) mm Hg @ 25°C	Boiling point °F:	Not Available
Vapor density:	Not Available	Flash point:	289 °C (552 °F) Cleveland Open Cup
Viscosity:	Not Available	Auto-ignition temperature:	360°C (680°F)
Melting point/Freezing point:	219.5-225.5°C (427-438°F)	Flammability (solid, gas):	Not flammable (may form combustible dust concentrations in air)
Oxidizing properties:	Not oxidizing	Flammability or explosive limits:	LFL/LEL Not Available
Explosive properties:	Not explosive		UFL/UEL Not Available
Decomposition temperature:	Not Available		

Other information: Amounts specified are typical and do not represent a specification.

Dust combustibility data: The following characteristics apply to powder and are expected to apply to dust from pastilles, flakes or pellets if these forms are reduced to a powder:

- Minimum explosive concentration: 0.030 oz/ft3 (30 g/m3)
- Minimum ignition energy (dust cloud): 0.10 joules (at 0.300 oz/ft3 dust cloud); >1 millijoules - <3 millijoules (external data, no dust cloud concentration reported)
- Maximum rate of pressure rise: 16,200 psi/sec @ 0.10 oz/ft3
- Maximum pressure of explosion: 83 psig @ 2.0 oz/ft3
- Deflagration Index, Kst (estimate): 282 bar m/sec
- Explosion severity ratio: 6.21 (severe)

SECTION 10: Stability and reactivity

Reactivity: None known.

Chemical stability: This product is stable.

Possibility of hazardous reactions: Hazardous polymerization will not occur.

Conditions to avoid: Avoid static discharge. Avoid dust formation.

Incompatible materials: Avoid strong acids, bases, and oxidizing agents. Depending on the amount and specific materials involved, contact can result in intense heat, boiling, flame development, explosion or toxic gas generation.

Hazardous decomposition products: Carbon monoxide, carbon dioxide, and oxides of nitrogen.

SECTION 11: Toxicological information

Information on likely routes of exposure:

General: Caution must be exercised through the prudent use of protective equipment and handling procedures to minimize exposure.

Eyes: Solid particles on the eye (powder/dust) may cause pain and be accompanied by irritation.

Skin: May cause skin irritation.

Inhalation: Dust inhalation may cause respiratory irritation.

Ingestion: Ingestion may cause irritation.

Symptoms/effects, acute and delayed: Irritation

Acute toxicity information: Not classified (based on available data, the classification criteria are not met). Oral LD50, Rat: >5000 mg/kg. Dermal LD50, Rabbit: >2000 mg/kg. Inhalation LC50, Rat: >20 mg/L, 1 hour.

Skin corrosion/irritation: Not classified (based on available data, the classification criteria are not met).

Serious eye damage/irritation: Not classified (based on available data, the classification criteria are not met).

Respiratory or skin sensitization: Not classified (based on available data, the classification criteria are not met).

Carcinogenicity: Not classified (based on available data, the classification criteria are not met). Under the conditions of the two year oral study, there was no evidence of carcinogenic activity.

Carcinogenic status: Not listed or regulated by IARC (Group 1 or 2), NTP, OSHA, or ACGIH.

Germ cell mutagenicity: Not classified (based on available data, the classification criteria are not met). This material does not show mutagenic or clastogenic properties.

Reproductive toxicity: Not classified (based on available data, the classification criteria are not met). This material has not been found to be a reproductive toxicant. Developmental toxicity study, rat: NOEL maternal toxicity=1000 mg/kg/day; NOEL teratogenicity=1000 mg/kg/day.

Specific target organ toxicity (STOT) - single exposure: Not classified (based on available data, the classification criteria are not met).

Specific target organ toxicity (STOT) - repeated exposure: Not classified (based on available data, the classification criteria are not met). Repeated dose study, 3 months, oral, rat: NOEL (no-observable-effect-level)=3000 ppm (201 mg/kg/day) in males and 800 ppm (50 mg/kg/day) in females. There were no treatment-related changes in blood chemistry, organ weights or urinalysis. The females were found to have a statistically significant, but slight, increase in mean circulating blood platelets in the 3000 ppm and 15000 ppm dose groups. Repeated dose study, 28 days, oral, rat: NOAEL (no-observable-adverse-effect-level)=1000 ppm (95 mg/kg/day) in both males and females. Increased food and water consumption in both sexes was observed at the 10000 ppm dose level.

Aspiration hazard: Not classified (technical impossibility to obtain the data).

Other toxicity information: No additional information available.

SECTION 12: Ecological information

Ecotoxicity: Acute toxicity is not expected at or below the level of water solubility.

Persistence and degradability: Not readily biodegradable.

Bioaccumulative potential: Not expected to bioaccumulate.

Mobility in soil: No specific information available.

Other adverse effects: No additional information available.

SECTION 13: Disposal considerations

Although this product is not defined or designated as hazardous by current provisions of the Federal (EPA) Resource Conservation and Recovery Act (RCRA, 40CFR261), recognize that in appropriate dust/air ratio, dust cloud in air may have explosion potential. Incinerate or landfill waste in a properly permitted facility in accordance with federal, state and local regulations.

See Section 8 for recommendations on the use of personal protective equipment.

SECTION 14: Transport information

The information below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions.

UN number: N/A

SDS Name: GOOD-RITE* 3114 FFS Antioxidant

UN proper shipping name:

Not regulated - See Bill of Lading for Details

Transport hazard class(es):

U.S. DOT hazard class: N/A

Canada TDG hazard class: N/A

Europe ADR/RID hazard class: N/A

IMDG Code (ocean) hazard class: N/A

ICAO/IATA (air) hazard class: N/A

A "N/A" listing for the hazard class indicates the product is not regulated for transport by that regulation.

Packing group: N/A

Environmental hazards:

Marine pollutant: Not Applicable

Hazardous substance (USA): Not Applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:

Not Applicable

Special precautions for user: Not Applicable

SECTION 15: Regulatory information

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

U.S. federal and state regulations/legislation:

This SDS has been prepared in accordance with the hazard criteria of the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Reportable Quantity (RQ):

Not Applicable

U.S. Superfund Amendments and Reauthorization Act (SARA) - SARA Section 313:

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and 40 CFR 372:

None known

U.S. TSCA Section 12(b) Export Notification:

This product is not subject to TSCA 12(b) reporting requirements.

California Proposition 65:

The following ingredient(s) present in the product is [are] known to the State of California to cause cancer:

None known to be present or none in reportable amounts for occupational exposure as per OSHA's approval of the California Hazard Communication Standard, Federal Register, page 31159 ff, 6 June 1997.

The following ingredient(s) present in the product is [are] known to the State of California to cause birth defects or other reproductive harm:

None known to be present or none in reportable amounts for occupational exposure as per OSHA's approval of the California Hazard Communication Standard, Federal Register, page 31159 ff, 6 June 1997.

Notes: No additional information

Canada regulations/legislation:

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

Notes: No additional information

Chemical inventories:

<u>Regulation</u>	<u>Status</u>
Australian Inventory of Chemical Substances (AICS):	Y
Canadian Domestic Substances List (DSL):	Y
Canadian Non-Domestic Substances List (NDSL):	N
China Inventory of Existing Chemical Substances (IECSC):	Y
European EC Inventory (EINECS, ELINCS, NLP):	Y
Japan Existing and New Chemical Substances (ENCS):	Y
Japan Industrial Safety and Health Law (ISHL):	Y
Korean Existing and Evaluated Chemical Substances (KECL):	Y
New Zealand Inventory of Chemicals (NZIoC):	Y
Philippines Inventory of Chemicals and Chemical Substances (PICCS):	Y
Taiwan Inventory of Existing Chemicals:	Y
U.S. Toxic Substances Control Act (TSCA):	Y

Europe REACH (EC) 1907/2006: Not all applicable components are registered. Please contact your sales representative for further information regarding REACH compliance. REACH is only relevant to substances either manufactured or imported into the EU. REACH information regarding this product is provided for informational purposes only. Each Legal Entity may have differing REACH obligations, depending on their place in the supply chain. For material manufactured outside of the EU, the importer of record must understand and meet their specific obligations under the regulation.

SECTION 16: Other information

SDS Revision date: 2018-10-18

HMIS (Hazardous Materials Identification System) Ratings:

Health: 1 **Flammability:** 1 **Physical hazard:** 0 **Personal Protection:** X

NFPA (National Fire Protection Association) Ratings:

Health: 1 **Flammability:** 1 **Instability:** 0

Key: 0=Insignificant; 1=Slight; 2=Moderate; 3=High; 4=Extreme. An asterisk appearing after the HMIS Health numerical rating denotes a chronic hazard.

Hazardous Materials Identification System (HMIS), National Paint and Coating Association, rating applies to product "as packaged" (i.e., ambient temperature). Ratings are based upon HMIS® III and NFPA 704 (2007). An asterisk appearing after the HMIS Health® III numerical rating denotes a chronic hazard. National Fire Protection Association (NFPA) rating identifies the severity of hazards of material during a fire emergency (i.e., "on fire").

Legend:

* : Trademark owned by Emerald Performance Materials, LLC.

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA WEEL: American Industrial Hygiene Association (AIHA) Workplace Environmental Exposure Level (WEEL)

N/A: Not Applicable

N/E: None Established

STEL: Short Term Exposure Limit

TWA: Time Weighted Average (exposure for 8-hour workday)

Users Responsibility/Disclaimer of Liability:

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local laws and local regulations remains the responsibility of the user.

This bulletin cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to develop appropriate work practice guidelines and employee instructional programs for your operation.

SDS Name: GOOD-RITE* 3114 FFS Antioxidant

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