

SAFETY DATA SHEET

GHS
United States

Section 1. Product and company identification

Product name **VANFRE® F60T** [In case of emergency](#)
Code 49815 1-203-853-1400
Supplier/Manufacturer Vanderbilt Chemicals, LLC Chemtrec: 1-800-424-9300
30 Winfield Street Outside US:
Norwalk, CT 06855 +1-703-527-3887

Synonym Not available.
Material uses Processing aid
Product type Solid.

Section 2. Hazards identification

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture COMBUSTIBLE DUSTS

GHS label elements

Signal word Warning

Hazard statements May form combustible dust concentrations in air.

Precautionary statements

Prevention Not applicable.

Response Not applicable.

Storage Not applicable.

Disposal Not applicable.

Supplemental label elements Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Prevent dust accumulation.

Hazards not otherwise classified None known.

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	CAS number	% by weight
fatty acids, C16-18 and C18-unsatd., zinc salts	67701-13-7	95
fatty acids, C16-18, esters with pentaerythritol	85116-93-4	5

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	No specific data.
Inhalation	No specific data.
Skin contact	No specific data.
Ingestion	No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	In case of fire, use water spray (fog), foam, dry chemical or CO ₂ .
Unsuitable extinguishing media	Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.
Specific hazards arising from the chemical	May form explosible dust-air mixture if dispersed.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Special protective actions for fire-fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill	Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large spill	Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Exposure Limits for Total Product

As particles not otherwise specified (PNOS).

TLV® TWA: 10 mg/m³ inhalable particles (ACGIH)
3 mg/m³ respirable particles (ACGIH)

As particles not otherwise regulated (PNOR).

TWA: 15 mg/m³ total dust (OSHA)
5 mg/m³ respirable dust (OSHA)

Appropriate engineering controls

The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: safety glasses with side-shields

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: lab coat

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Personal protective equipment (Pictograms)



Section 9. Physical and chemical properties

Appearance

Physical state	Solid. [Flakes.]
Color	Yellow. [Light]
Odor	Characteristic.
Odor threshold	Not available.
pH	Not available.
Melting point	90°C (194°F)
Boiling point	Not available.
Flash point	Open cup: >270°C (>518°F) [COC]
Burning time	Not available.
Burning rate	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	1.1 g/cm ³ [20°C (68°F)]
Relative density	Not available.
Solubility	Insoluble in the following materials: cold water.

Section 9. Physical and chemical properties

Solubility in water	Not available.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
SADT	Not available.
Viscosity	Not available.

Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
fatty acids, C16-18 and C18-unsatd., zinc salts	LC50 Inhalation Vapor	Rat	>5.7 mg/l Based on tests of similar materials	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg Based on tests of similar materials	-
	LD50 Oral	Rat	>5000 mg/kg Based on tests of similar materials	-
fatty acids, C16-18, esters with pentaerythritol	LC50 Inhalation Dusts and mists	Rat	>5 mg/l Based on tests of similar materials	4 hours
	LD50 Dermal	Rat	>2000 mg/kg Based on tests	-

Section 11. Toxicological information

	LD50 Oral	Rat	of similar materials >2000 mg/kg Based on tests of similar materials	-
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Irritation/Corrosion

Not available.

Conclusion/Summary

Skin

fatty acids, C16-18, esters with pentaerythritol: Non-irritating to the skin. (Rabbit)
fatty acids, C16-18 and C18-unsatd., zinc salts: Non-irritating to the skin. (Rabbit)
(Based on tests of similar materials)

Eyes

fatty acids, C16-18, esters with pentaerythritol: Non-irritating to the eyes. (Rabbit)
fatty acids, C16-18 and C18-unsatd., zinc salts: Non-irritating to the eyes. (Rabbit)
(Based on tests of similar materials)

Sensitization

Product/ingredient name	Route of exposure	Species	Result
fatty acids, C16-18 and C18-unsatd., zinc salts	skin	Guinea pig	Not sensitizing (Based on tests of similar materials)
fatty acids, C16-18, esters with pentaerythritol	skin	Mouse	Not sensitizing (Based on tests of similar materials)

Mutagenicity

Product/ingredient name	Test	Experiment	Result
fatty acids, C16-18 and C18-unsatd., zinc salts	-	Experiment: In vitro Subject: Bacteria	Negative (Based on tests of similar materials)
fatty acids, C16-18, esters with pentaerythritol	OECD 473	Experiment: In vitro Subject: Mammalian-Human	Negative (Based on tests of similar materials)
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative (Based on tests of similar materials)

Conclusion/Summary

fatty acids, C16-18 and C18-unsatd., zinc salts: Weakly positive results shown in in vivo mammalian germ cell study using rats. (Based on tests of similar materials)

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact

No known significant effects or critical hazards.

Inhalation

No known significant effects or critical hazards.

Skin contact

May be harmful in contact with skin.

Ingestion

No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

No specific data.

Inhalation

No specific data.

Skin contact

No specific data.

Ingestion

No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Long term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
fatty acids, C16-18 and C18-unsatd., zinc salts	Sub-chronic NOEL Oral	Mouse	3000 ppm Based on tests of similar materials	-
fatty acids, C16-18, esters with pentaerythritol	Sub-chronic NOAEL Oral	Rat	1450 mg/kg Based on tests of similar materials	-

General

No known significant effects or critical hazards.

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Developmental effects

No known significant effects or critical hazards.

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Fertility effects

No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	50000 mg/kg
Dermal	2500 mg/kg

Other information

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
fatty acids, C16-18 and C18-unsatd., zinc salts	Acute LC50 >100 mg/l No effect up to the limit of solubility. (Based on tests of similar materials)	Algae	72 hours
	Acute LC50 >100 mg/l No effect up to the limit of solubility. (Based on tests of similar materials)	Daphnia	48 hours
	Acute LC50 >1 mg/l No effect up to the limit of solubility. (Based on tests of similar materials)	Fish	96 hours
fatty acids, C16-18, esters with pentaerythritol	Acute EL50 >100 mg/l	Algae	72 hours
	Acute EL50 >100 mg/l Based on tests of similar materials	Daphnia	48 hours
	Acute LC50 >100 mg/l Based on tests of similar materials	Fish	96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
fatty acids, C16-18 and C18-unsatd., zinc salts	OECD 301D	93 % - Readily - 28 days	-	-
fatty acids, C16-18, esters with pentaerythritol	OECD 301B	>60 % - Readily - 28 days (Based on tests of similar materials)	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
fatty acids, C16-18, esters with pentaerythritol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
fatty acids, C16-18, esters with pentaerythritol	30.81	-	high

Mobility in soil

Section 12. Ecological information

Soil/water partition coefficient (K_{oc}) Not available.

Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group

Section 15. Regulatory information

United States inventory (TSCA 8b) All components are listed or exempted.

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Water Act (CWA) 307: fatty acids, C16-18 and C18-unsatd., zinc salts

SARA 302/304

Composition/information on ingredients

No products were found.

Section 15. Regulatory information

SARA 304 RQ Not applicable.

SARA 311/312

Classification COMBUSTIBLE DUSTS

Composition/information on ingredients

No products were found.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	fatty acids, C16-18 and C18-unsatd., zinc salts	67701-13-7	95
Supplier notification	fatty acids, C16-18 and C18-unsatd., zinc salts	67701-13-7	95

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts	None of the components are listed.
New York	None of the components are listed.
New Jersey	The following components are listed: ZINC compounds
Pennsylvania	The following components are listed: ZINC COMPOUNDS
California Prop. 65	None of the components are listed.

International regulations

Australia inventory (AIIIC)	All components are listed or exempted.
Canada inventory	At least one component is not listed in DSL but all such components are listed in NDSL.
China inventory (IECSC)	All components are listed or exempted.
Europe inventory	All components are listed or exempted.
Japan inventory (CSCL)	At least one component is not listed.
Korea inventory (KECI)	All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	All components are listed or exempted.

Section 16. Other information

Hazardous Material Identification System (U.S.A.)

Health	0
Flammability	1
Physical hazards	0

Section 16. Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

[National Fire Protection Association \(U.S.A.\)](#)



Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

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Key to abbreviations

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

References

Not available.

Information contact

Vanderbilt Global Services, LLC
Corporate Risk Management

1-203-295-2143

Visit www.vanderbiltchemicals.com for more information.

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