SAFETY DATA SHEET

Section 1 - Chemical Product and Company Information

PANNIER CORPORATION
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Pittsburgh, PA 15212

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Telephone: (412) 323-4900
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Emergency Telephone:
Infotrac (800) 535-5053

Product Name: FES Orange
Product Use: Paint
Not recommended for: Non-Professional Use

Section 2 - Hazards Identification

GHS Ratings

Flammable liquid	2	Flash point < 23°C and initial boiling point > 35°C (95°F)
Serious eye damage/eye irritation	2A	Eye irritant: Subcategory 2A, Reversible in 21 days
Reproductive toxicity	1B	Presumed, Based on experimental animals

GHS Hazards

H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation.
H360	May damage fertility or the unborn child.

GHS Precautions

P203	Obtain, read and follow all safety instructions before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking
P233	Keep container tightly closed
P240	Ground/bond container and receiving equipment
P241	Use explosion-proof electrical/ventilating/light/manufacturer/equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P280	Wear protective gloves/protective clothing/eye protection/face protection
P264+P265	Wash hands (and...)thoroughly after handling. Do not touch eyes.
P318	IF exposed or concerned, get medical advice.
P337+P317	If eye irritation persists: Get medical help.
P370+P378	In case of fire: Use ... to extinguish.
P303+P361+P353	IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P405	Store locked up
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Signal Word: Danger

Acute Toxicity

N/A

Conditions Aggravated

N/A

Chronic Effects

N/A

Section 3 - Composition / Information on Ingredients

Chemical Name	CAS number	Weight Concentration %
Ethyl alcohol	64-17-5	60.00% - 70.00%
Titanium (IV) dioxide	13463-67-7	10.00% - 20.00%
Cellulose Nitrate	9004-70-0	5.00% - 10.00%
Acetic Ester	141-78-6	1.00% - 5.00%
Yellow 83	5567-15-7	1.00% - 5.00%
2-Propanol	67-63-0	1.00% - 5.00%
Methyl alcohol	67-56-1	1.00% - 5.00%
Tricresyl phosphate	1330-78-5	1.00% - 5.00%
2-Pentanone, 4-methyl-	108-10-1	0.10% - 1.00%
Trixylyl phosphate	25155-23-1	0.10% - 1.00%

Section 4 - First Aid Measures

INHALATION - Move affected person to fresh air, rest in a half upright position, and loosen clothing . If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Seek medical advice after significant exposure.

EYE CONTACT - Flush with large amounts of water for at least 15 minutes . Lift eyelids occasionally. Get prompt medical attention.

SKIN - Wash thoroughly with soap and water immediately. Remove all contaminated clothing immediately. Seek medical advice if irritation persists.

INGESTION - Seek medical advice. The decision to induce vomiting or not must be made by a physician after careful consideration of all materials ingested. Risk of aspiration into lungs.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

Carbon Dioxide---Dry Chemical---Foam---Water Fog
Use water for cooling material stored in vicinity of fire.

Explosion Hazards

Vapors are heavier than air and may travel along the ground to an ignition source some distance from material handling point. Ignition sources include pilot lights, smoking, heaters, electric motors, sparks from electrical switches and static discharges.

CAUTION: Never use cutting torch on empty containers! Residual solvent vapor in empty container(s) may explode. Application to hot surfaces requires special precautions. During emergency conditions, overexposure to

decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain Medical Attention.

Hazardous Combustion Products

N/A

Recommended Fire Equipment

Use self-contained breathing apparatus with a full-face piece operated in a pressure-demand or other positive pressure mode. Wear protective clothing.

Section 6 - Accidental Release Measures

Non-emergency personnel: Evacuate and isolate the area and prevent access. Remove ignition sources. No flares, smoking or flames in hazard area. Notify management. Avoid breathing vapor or mist and put on protective equipment. Control source of the leak. Ventilate.

Emergency responders: See section 8 for any specialized clothing recommendations. Also reference the information for non-emergency personnel

Environmental precautions: Prevent further leakage or spillage if possible. Do not allow the material to spread to drains, sewers, water supplies, or soil.

Small Spill: Stop leak if possible and move containers from the spill area. Water soluble: dilute with water and mop up. Water Insoluble: Cover spill area with a suitable absorbent inert material (Kitty Litter, Oil-Dri, etc.) and dispose of in an appropriate metal waste container. Dispose of material through a licensed waste disposal contractor.

Large Spill: Stop leak if possible and move containers from the spill area. Approach release from upwind. Contain spillage and with non-combustible absorbent material and place in appropriate disposal container according to local regulations. Dispose of material through a licensed waste disposal contractor. Report spill to appropriate governing agencies if applicable.

Section 7 - Handling and Storage

Precautions for Safe Handling

Keep away from food, drink and heat. Keep away from sources of ignition. No smoking. Do not breathe vapor. Avoid contact with skin and eyes. Never use pressure to empty. Take precautionary measures against static discharges .

Storage temperature-

Minimum:	do not freeze
Maximum:	40°C (104°F)

Storage Period- See technical data sheet.

Section 8 - Exposure Controls / Personal Protection

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits

Ethyl alcohol 64-17-5	1000 ppm TWA; 1900 mg/m3 TWA	1000 ppm STEL	NIOSH: 1000 ppm TWA; 1900 mg/m3 TWA
Titanium (IV) dioxide 13463-67-7	15 mg/m3 TWA (total dust)	0.2 mg/m3 TWA (nanoscale respirable particulate matter) ; 2.5 mg/m3 TWA (fine scale respirable particulate matter)	NIOSH: 2.4 mg/m3 TWA (CIB 63, fine); 0.3 mg/m3 TWA (CIB 63, ultrafine, including engineered nanoscale)
Cellulose Nitrate 9004-70-0	N/A	N/A	N/A
Acetic Ester 141-78-6	400 ppm TWA; 1400 mg/m3 TWA	400 ppm TWA	NIOSH: 400 ppm TWA; 1400 mg/m3 TWA
Yellow 83 5567-15-7	15 mg/m3 TWA Total Dust 5 mg/m3 Respirable Dust	N/A	N/A
2-Propanol 67-63-0	400 ppm TWA; 980 mg/m3 TWA	400 ppm STEL 200 ppm TWA	NIOSH: 400 ppm TWA; 980 mg/m3 TWA 500 ppm STEL; 1225 mg/m3 STEL
Methyl alcohol 67-56-1	200 ppm TWA; 260 mg/m3 TWA	250 ppm STEL 200 ppm TWA	NIOSH: 200 ppm TWA; 260 mg/m3 TWA 250 ppm STEL; 325 mg/m3 STEL
Tricresyl phosphate 1330-78-5	N/A	N/A	N/A
2-Pentanone, 4-methyl- 108-10-1	100 ppm TWA; 410 mg/m3 TWA	75 ppm STEL 20 ppm TWA	NIOSH: 50 ppm TWA; 205 mg/m3 TWA 75 ppm STEL; 300 mg/m3 STEL
Trixylyl phosphate 25155-23-1	Not Established	Not Established	Not Established

Engineering Controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation, or other controls to keep air containment concentration below current applicable OSHA permissible exposure limit or ACGIH TLV limit, and volatiles below lower explosive limit. Heavy solvent vapors should be removed from the lower levels of area, and all ignition sources (non-explosion proof equipment) should be eliminated if flammable mixtures will be encountered. Remove decomposition products formed during welding or flame cutting of surfaces coated with this product. For baking finishes - vent vapors emitted on heating.

Environmental Controls: Emissions should comply with environmental protection legislation.

Individual Protection Measures:

Hygiene measures- Wash hands, forearms, etc. after handling chemical products, before eating, smoking, and using the lavatory, and the end of the work period. Use appropriate techniques when removing potentially contaminated clothing and wash before reusing. Know the locations of eyewash and safety showers.

Respiratory Protection- Provide adequate ventilation to keep exposure below permissible limits. If a risk assessment is deemed necessary, operator is to use a properly fitted, air purifying or supplied air respirator. Respirator selection must be based on known/ anticipated exposure levels, the hazards of the product, and the safe working limits of the respirator.

Skin and Body Protection- Wear chemical resistant gloves (nitrile) and paint suits when necessary, based on risk assessment. The most suitable glove must be chosen in consultation with the gloves supplier who can inform about the breakthrough time of the glove material. PPE for the body should be selected based on the risks of the task being performed and approved by a specialist. Appropriate footwear should also be approved.

Eye/Face Protection- Wear approved chemical safety goggles where exposure to vapor or contact with eyes is possible. Eye wash stations should also be made available. If inhalation hazard exists, a risk assessment will determine if a full-face respirator may be required

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties:

Viscosity: Not determined	**pH:** N/A
% Weight Solids 27.24	**% Volume Solids** 13.31
VOC Wt/Gal (wet) 5.85	**U.S. VOC Wt/Gal (wet)** 5.85
Specific Gravity (SG) 0.961	**Odor:** N/A
Odor Threshold: Not determined	**Color:** Orange
Boiling Point: 65°C	**Flash Point:** 25°F,-4°C
LEL/UEL: N/A	**Autoignition Temperature:** 170°C
Evaporation Rate (nBuAc=1): Not determined	**Vapor Pressure:** 9.18 kPa
Vapor Density: Calculated	**Freezing Point:** Not determined
Partition coefficient: Not determined	

Section 10 - Stability and Reactivity

The following materials should be avoided in contact with the mixture

Strong acids

Hazardous decomposition products

Titanium/titanium oxides

Section 11 - Toxicological Information

Mixture Toxicity

Inhalation Toxicity LC50: 299mg/L

LC_{50} and LD_{50} toxicity for this product are merely estimates and have yet to be determined. For individual component ecotoxicity, please refer to Section 12.

Possible Routes of Entry

Inhalation Eye Contact Ingestion

Potential Target Organs

Blood Eyes Kidneys Liver Lungs Central Nervous System Reproductive System Skin GI Tract Respiratory System

Effects of Overexposure

Not Available

The following components are possible carcinogens

***Materials labeled a carcinogen in dust form are supplied in solution, thus eliminating the hazard.**

CAS Number	Description	% Weight	Carcinogen Rating
108-10-1	2-Pentanone, 4-methyl-	0.1% - 1.0%	2-Pentanone, 4-methyl-: IARC: Possible human carcinogen OSHA: listed
13463-67-7	Titanium (IV) dioxide	10% - 20%	Titanium (IV) dioxide: NIOSH: potential occupational carcinogen IARC: Possible human carcinogen OSHA: listed

Section 12 - Ecological Information

Mixture Ecotoxicity

Toxicity- Do not release into environment. May cause long term adverse effects.
Persistence and degradability- N/A
Bioaccumulative potential- N/A
Mobility in Soil- N/A

Component Ecotoxicity

Ethyl alcohol	LC50 96 h Oncorhynchus mykiss 12.0 - 16.0 mL/L (EPA); LC50 96 h Pimephales promelas >100 mg/L (EPA); LC50 96 h Pimephales promelas 13400 - 15100 mg/L (EPA) LC50 48 h Daphnia magna 9268 - 14221 mg/L (IUCLID); EC50 48 h Daphnia magna 2 mg/L [Static] (EPA)
Acetic Ester	LC50 96 h Pimephales promelas 220 - 250 mg/L (EPA); LC50 96 h Oncorhynchus mykiss 484 mg/L (IUCLID); LC50 96 h Oncorhynchus mykiss 352 - 500 mg/L [semi-static] (EPA) EC50 48 h Daphnia magna 560 mg/L [Static] (EPA)
Yellow 83	LC50 96 h Danio rerio >100 mg/L (ECHA)
2-Propanol	LC50 96 h Pimephales promelas 9640 mg/L (IUCLID); LC50 96 h Pimephales promelas 11130 mg/L (IUCLID); LC50 96 h Lepomis macrochirus >1400000 µg/L (EPA) EC50 48 h Daphnia magna 13299 mg/L (IUCLID) EC50 96 h Desmodesmus subspicatus >1000 mg/L (IUCLID); EC50 72 h Desmodesmus subspicatus >1000 mg/L (IUCLID)
Methyl alcohol	LC50 96 h Pimephales promelas 28200 mg/L (EPA); LC50 96 h Pimephales promelas >100 mg/L (EPA); LC50 96 h Oncorhynchus mykiss 19500 - 20700 mg/L (EPA); LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L (EPA); LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L (EPA)
Tricresyl phosphate	LC50 96 h Lepomis macrochirus 0.1 - 0.22 mg/L (0.6 g, EPA); LC50 96 h Oncorhynchus mykiss 0.21 - 0.32 mg/L (0.2 g, EPA); LC50 96 h Oncorhynchus mykiss 3.3 - 6.2 mg/L (EPA); LC50 96 h Lepomis macrochirus 20.4 - 41.2 mg/L (EPA); LC50 96 h Oryzias latipes 3.2 - <10 mg/L [semi-static] (EPA); LC50 96 h Poecilia reticulata 4.8 - 6.4 mg/L [semi-static] (EPA)
2-Pentanone, 4-methyl-	LC50 96 h Pimephales promelas 496 - 514 mg/L (EPA) EC50 48 h Daphnia magna 170 mg/L (IUCLID) EC50 96 h Pseudokirchneriella subcapitata 400 mg/L (IUCLID)
Trixylyl phosphate	LC50 96 h Pimephales promelas >1119 µg/L (ECHA)

Section 13 - Disposal Considerations

Dispose of in accordance with federal, state and local regulations. Controlled incineration is recommended for disposal of unused product. Prevent contamination of soil, drains and surface waters. Dispose of large containers to a licensed reconditioner. Dispose of small containers in compliance with local regulations.

Section 14 - Transport Information

Agency	Proper Shipping Name	UN Number	Packing Group	Hazard Class
DOT	Paint	UN1263	II	3
IATA	Paint Pkg Instr: Y341/353/364	UN1263	II	3
IMDG	Paint EmS: F-E, S-D	UN1263	II	3

Section 15 - Regulatory Information

The following chemicals are listed in California Title 8 CCR Sections as Hazardous Substances

108-10-1 2-Pentanone, 4-methyl-
67-56-1 Methyl alcohol
67-63-0 2-Propanol
141-78-6 Acetic Ester
64-17-5 Ethyl alcohol

The following chemicals are listed in California Title 8 CCR Sections 5200-5220 as Carcinogens .

N/A

The following chemicals are listed in California Title 8 CCR Section 5203 as Carcinogens

N/A

The following chemicals are listed in California Title 8 CCR Section 5209 as Carcinogens .

N/A

The following chemicals are listed in the EU-Substances of Very High Concern (2008/67/ED) (SVHC):

N/A

The following chemicals are listed in the EU-Restriction of the use of certain Hazardous Substances (2011/65/EU) (RoHS):

N/A

The following chemicals are included in the Global Automotive Declarable Substance List (GADSL)

1330-78-5 Tricresyl phosphate
67-56-1 Methyl alcohol
9004-70-0 Cellulose Nitrate
13463-67-7 Titanium (IV) dioxide

The following substances are required for notification by the Japanese Enforcement Order of the Industrial Safety and Health Law (ISHL):

108-10-1 2-Pentanone, 4-methyl-
67-56-1 Methyl alcohol
67-63-0 2-Propanol
141-78-6 Acetic Ester
9004-70-0 Cellulose Nitrate
64-17-5 Ethyl alcohol

The following chemicals are listed on the Massachusetts Right-to-Know Hazardous Substances List.

108-10-1 2-Pentanone, 4-methyl-
67-56-1 Methyl alcohol
67-63-0 2-Propanol
141-78-6 Acetic Ester
9004-70-0 Cellulose Nitrate
13463-67-7 Titanium (IV) dioxide
64-17-5 Ethyl alcohol

The following chemicals are listed on the New Jersey Right-to-Know Hazardous Substances List.

108-10-1 2-Pentanone, 4-methyl-
1330-78-5 Tricresyl phosphate
67-56-1 Methyl alcohol
67-63-0 2-Propanol
141-78-6 Acetic Ester
9004-70-0 Cellulose Nitrate
13463-67-7 Titanium (IV) dioxide
64-17-5 Ethyl alcohol

The following chemicals are listed on the Pennsylvania Right-to-Know Hazardous Substances List.

108-10-1 2-Pentanone, 4-methyl-
67-56-1 Methyl alcohol
67-63-0 2-Propanol
141-78-6 Acetic Ester
9004-70-0 Cellulose Nitrate
13463-67-7 Titanium (IV) dioxide
64-17-5 Ethyl alcohol

The following chemicals are listed by the State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

108-10-1 2-Pentanone, 4-methyl- 0.1 - 1.0% Carcinogen
67-56-1 Methyl alcohol 1 - 5% Mutagen
13463-67-7 Titanium (IV) dioxide 10 - 20% Carcinogen

Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) requires certain facilities manufacturing, processing, or otherwise using listed toxic chemicals to report their environmental releases of such chemicals annually. The following chemicals are listed:

108-10-1 2-Pentanone, 4-methyl- 0.1 - 1.0%
67-56-1 Methyl alcohol 1 - 5%

The following chemicals are listed in EPCRA (SARA) Section 313: Persistent, Bioaccumulative, and Toxic Chemicals (PBT)

N/A

The following chemicals are listed under EPCRA (SARA) Section 313: Toxic Release Inventory (TRI)

N/A

Under Section 12(b) of the Toxic Substances Control Act (TSCA), exporters may need to notify the U .S. Environmental Protection Agency if they export or intend to export a product containing a chemical substance that is present on this list. The following substances are contained within this material:

N/A

The following chemicals are listed as a *Hazardous Air Pollutant* under listed under the U.S. CAA (Clean Air Act)

108-10-1 2-Pentanone, 4-methyl-
67-56-1 Methyl alcohol

Country	Regulation	All Components Listed
USA	Toxic Substances and Control Act (TSCA)	Yes
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Canadian Domestic Substances List (DSL)	Yes
Canada	Canadian Non-Domestic Substances List (NSDL)	No
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Europe	REACH Registered or Pre-Registered Substances and Intermediates	Yes

Japan	Japanese Inventory of Existing and New Chemical Substances (ENCS)	Yes
Japan	Japan Inventory of Industrial Safety and Health Law Substances (ISHL)	No
Korea	Korean Existing Chemical Inventory (KECI)	Yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	Yes
Philippines	Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Yes

EU Risk Phrases

Not Available

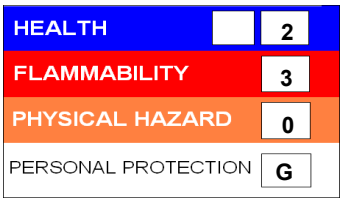
Safety Phrase

Not Available

Section 16 - Other Information

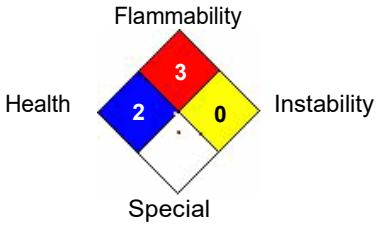
NFPA and HMIS use a numbering scale ranging from 0 to 4 to indicate the degree of hazard . A value of zero means that the substance possesses essentially no hazard; a rating of four indicates extreme danger. Although similar, the two rating systems are intended for different purposes, and use different criteria . The NFPA system was developed to provide an on-the-spot alert to the hazards of a material, and their severity, to emergency responders . The HMIS system was designed to communicate workplace hazard information to employees who handle hazardous chemicals.

Hazardous Material Information System (HMIS)



HMIS & NFPA Hazard Rating Legend
*** = Chronic Health Hazard**
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH

National Fire Protection Association (NFPA)



The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

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