



SAFETY DATA SHEET

1. Identification

Product identifier	FF III Fungicide
Other means of identification	
SDS number	548_v1.1
Recommended use	Fungicide.
Recommended restrictions	No other uses are advised. Keep out of the Reach of Children!
EPA Registration number	EPA: 5481-614
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	AMVAC Chemical Corporation
Address	4100 E Washington Blvd Los Angeles, CA 90023 USA
Telephone	AMVAC Chemical Corp 323-264-3910 AMVAC Chemical Corp 323-268-1028 (FAX)
Website	www.Amvac-Chemical.com
E-mail	CustServ@Amvac-Chemical.com
Emergency phone number	Medical 888-681-4261 CHEMTREC@ 800-424-9300 (USA+Canada) Product Use 888-462-6822 CHEMTREC@ (Outside +1-703-527-3887 USA)

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Serious eye damage/eye irritation	Category 2B
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Warning
Hazard statement	Harmful if swallowed. Causes mild skin irritation. Causes eye irritation. Transient Respiratory Irritation Possible
Precautionary statement	
Prevention	Keep out of reach of children. Read label before use. Do not eat, drink or smoke when using this product. Avoid breathing mist. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling.

Response	Call a POISON CENTER or doctor/physician if you feel unwell. If medical advice is needed, have product container or label at hand. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Storage	Store in original container. Keep container tightly closed.
Disposal	Dispose of contents/container in accordance with all applicable local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Pentachloronitrobenzene	PCNB; Quintozene	82-68-8	7.5
Chlorothalonil	2,4,5,6-Tetrachloro-1,3-benzenedicarboni trile	1897-45-6	3.9
Propiconazole	1-[[2-(2,4-Dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]methyl]-1,2,4-triazole	60207-90-1	0.62

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Not available.
Eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue to rinse for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	If victim is alert and not convulsing, give one glass of water to dilute material, but DO NOT induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. Call a physician or poison control center immediately. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Not available.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	Not available.
Specific hazards arising from the chemical	Not applicable.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Not available.
Methods and materials for containment and cleaning up	If uncontaminated, sweep up or collect, and reuse as product. If contaminated, shovel, sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination. Dispose of cleanup materials as hazardous waste (See Section 13).
Environmental precautions	Avoid discharge into drains, sewers, water courses or low areas.

7. Handling and storage

Precautions for safe handling No special precautions are necessary beyond normal good hygiene practices. See Section 8 of the SDS for additional personal protection advice when handling this product.

Conditions for safe storage, including any incompatibilities Store in cool, dry place. Store in a well-ventilated place. Do not expose to heat or store at temperatures above 120°F/49°C.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Additional components	Type	Value
free respirable Crystalline (quartz) Silica (CAS 14808-60-7)	PEL	0.05 mg/m ³

US. OSHA Table Z-3 (29 CFR 1910.1000)

Additional components	Type	Value	Form
Nuisance Dust	TWA	5 mg/m ³ 15 mg/m ³	Respirable fraction. Total dust.
free respirable Crystalline (quartz) Silica (CAS 14808-60-7)	TWA	0.1 mg/m ³	Respirable.

US. ACGIH Threshold Limit Values

Components	Type	Value
Pentachloronitrobenzene (CAS 82-68-8)	TWA	0.5 mg/m ³

Additional components	Type	Value	Form
free respirable Crystalline (quartz) Silica (CAS 14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Additional components	Type	Value	Form
free respirable Crystalline (quartz) Silica (CAS 14808-60-7)	TWA	0.05 mg/m ³	Respirable dust.

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

Appropriate engineering controls Local exhaust ventilation is recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection Safety glasses with side shields, goggles, or faceshield are recommended.

Skin protection

Hand protection Chemical resistant gloves. Nitrile or butyl rubber gloves are recommended.

Other Long-sleeved shirt and long pants or coveralls, socks and closed toe shoes are required.

Respiratory protection Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards Not available.

9. Physical and chemical properties

Appearance

Physical state Solid.

Form Granular.

Color Multi-colored

Odor Slight.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range	Not available.
Flash point	Not flammable
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Partially soluble
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions and storage conditions.
Possibility of hazardous reactions	Not available.
Conditions to avoid	Excessive heat (>200°F).
Incompatible materials	Strong bases. Oxidizing agents.
Hazardous decomposition products	Emits hazardous fumes and smoke of unknown composition when heated to decomposition or burned.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes slight skin irritation. May cause an allergic skin reaction.
Eye contact	Causes eye irritation.
Ingestion	May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics A person suffering from acute exposure to PCNB may exhibit vomiting, hyperirritability, convulsions, conversion of hemoglobin to methemoglobin. Technical Grade PCNB is a slight skin and eye irritant and may lead to contact dermatitis. Toxicology testing has shown PCNB is a skin sensitizer.

Information on toxicological effects

Acute toxicity May be harmful if swallowed. Causes slight skin irritation. Causes eye irritation. May cause respiratory irritation. May cause an allergic skin reaction.

Components	Species	Test Results
Chlorothalonil (CAS 1897-45-6)		
Acute		
Dermal		
LD50	Rat	> 2500 mg/kg
Pentachloronitrobenzene (CAS 82-68-8)		
Acute		
Dermal		
LD50	Rabbit	> 2020 mg/kg

Components	Species	Test Results
Inhalation		
LC50	Rat	> 6.49 mg/l (as an aerosol)
Oral		
LD50	Rat	> 5050 mg/kg
Propiconazole (CAS 60207-90-1)		
Acute		
Inhalation		
LC50	Rat	> 5.8 mg/l, 4 Hours
Oral		
LD50	Rat	1517 mg/kg
Skin corrosion/irritation	Causes slight skin irritation.	
Serious eye damage/eye irritation	Causes eye irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not available.	
Skin sensitization	Not available.	
Germ cell mutagenicity	Not available.	
Carcinogenicity	None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen. However, product may contain trace amounts of crystalline silica/quartz and wood dust, which are listed by IARC as potential human carcinogens. Studies on laboratory animals have suggested that chlorothalonil may have oncogenic potential. PCNB is an experimental animal carcinogen and a possible human carcinogen.	

IARC Monographs. Overall Evaluation of Carcinogenicity

Chlorothalonil (CAS 1897-45-6)	2B Possibly carcinogenic to humans.
free respirable Crystalline (quartz) Silica (CAS 14808-60-7)	1 Carcinogenic to humans.
Pentachloronitrobenzene (CAS 82-68-8)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

free respirable Crystalline (quartz) Silica (CAS 14808-60-7)	Known To Be Human Carcinogen.
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Reproductive toxicity	Not available.
Specific target organ toxicity - single exposure	Not available.
Specific target organ toxicity - repeated exposure	Not available.
Aspiration hazard	Not available.

12. Ecological information

Ecotoxicity

Components	Species	Test Results
Chlorothalonil (CAS 1897-45-6)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna)
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)
Pentachloronitrobenzene (CAS 82-68-8)		
Aquatic		
Crustacea	LC50	Water flea (Daphnia)
Fish	LC50	Bluegill (Lepomis macrochirus)

Components	Species	Test Results
	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.55 mg/l, 96 hours
Propiconazole (CAS 60207-90-1)		
Aquatic		
Fish	LC50	Brown trout (Salmo trutta)
		1.2 mg/l, 96 hours
		1.2 mg/l, 96 hours
Persistence and degradability	Not available.	
Bioaccumulative potential	Not available.	
Partition coefficient n-octanol / water (log Kow)		
Pentachloronitrobenzene		5
Propiconazole		3.5
Mobility in soil	Not available.	
Other adverse effects	Not available.	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site according to 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 container and residues in accordance with all applicable regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal according to all applicable regulations.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations

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

This product is registered under EPA/FIFRA Regulations. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

HAZARD TO HUMANS AND DOMESTIC ANIMALS.

CAUTION! Causes moderate eye irritation. Harmful if absorbed through skin. Avoid inhalation of dust. Avoid contact with eyes, skin, or clothing. Wash hands after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse. Wear protective eyewear. When mixing or loading or applying this product to turf via tractor-drawn spreader, wear a dust mask. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish, aquatic organisms, aquatic invertebrates and wildlife. Cover, collect, or incorporate spilled granules. Do not apply directly adjacent to potable water supplies. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Pentachloronitrobenzene (CAS 82-68-8) 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 - No
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.
Chlorothalonil	1897-45-6	3.9
Pentachloronitrobenzene	82-68-8	7.5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Pentachloronitrobenzene (CAS 82-68-8)

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 Proposition 65 - CRT: Listed date/Carcinogenic substance

Chlorothalonil (CAS 1897-45-6)	Listed: January 1, 1989
free respirable Crystalline (quartz) Silica (CAS 14808-60-7)	Listed: October 1, 1988

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Chlorothalonil (CAS 1897-45-6)
free respirable Crystalline (quartz) Silica (CAS 14808-60-7)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/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 Jun-13-2017

Revision date Jun-14-2017

Version # 1.1

Further information Not available.

HMIS® ratings
Health: 1
Flammability: 0
Physical hazard: 0

NFPA ratings
Health: 1
Flammability: 0
Instability: 0

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Revision information Composition / Information on Ingredients: Disclosure Overrides