



Safety Data Sheet

Preparation Date 22-Dec-2021

Revision date 01-Jul-2024

Revision Number: 5

1. Identification of the Substance/Preparation and of the Company/Undertaking

Identification of the product

Product Description VITAFLO® 280

Other means of identification

Internal SDS code 12-0553

UN/ID no UN3082

Registration number(s) 70506-553

Recommended use of the chemical and restrictions on use

Recommended use Plant protection agent. Fungicide.

Uses advised against Activities contrary to label recommendation

Details of the Supplier of the Safety Data Sheet

Supplier Address

UPL NA Inc.

PO Box 12219

Research Triangle Park, NC 27709-12219

Emergency telephone number

Company Phone Number 1-800-438-6071

Emergency telephone number Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887

Medical: Rocky Mountain Poison and Drug Safety (866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin Corrosion/Irritation	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

EMERGENCY OVERVIEW

WARNING

Hazard Statements

CAUSES SKIN IRRITATION

May cause damage to organs through prolonged or repeated exposure

HARMFUL IF SWALLOWED

Harmful if inhaled

**Appearance** clear**Physical state** Liquid**Odor** Slight sweet**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray
 Wash face, hands and any exposed skin thoroughly after handling
 Avoid release to the environment
 Do not handle until all safety precautions have been read and understood
 Obtain special instructions before use
 Wear protective gloves/protective clothing/eye protection/face protection

IF ON SKIN: Gently wash with plenty of soap and water
 If skin irritation occurs: Get medical advice/attention
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/national regulations

Hazards Not Otherwise Classified (HNOC)**OTHER INFORMATION**

- Very toxic to aquatic life with long lasting effects

3. Composition/information on Ingredients

Chemical name	CAS No	Weight-%
Carboxin	5234-68-4	15.6
Ethylene glycol	107-21-1	10-20
Thiram	137-26-8	13.3

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES

Eye contact	Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Call a poison control center or doctor for treatment advice.
Inhalation	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
Ingestion	Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects May cause damage to organs through prolonged or repeated exposure.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media

Carbon dioxide (CO₂). Dry chemical. Water spray.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

No information available.

Hazardous combustion products Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with skin and eyes. Use personal protective equipment. Wash thoroughly after handling. Do not breathe vapours or spray mist.

Environmental Precautions

Environmental precautions Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for Clean-Up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling

Handling Wear personal protective equipment. Avoid contact with skin and eyes. Do not breathe vapours or spray mist. Provide adequate ventilation.

Conditions for safe storage, including any incompatibilities

Storage Keep only in original container. Keep tightly closed in a dry and cool place.

incompatible materials Strong oxidizing agents. Strong acids. Strong bases.

8. Exposure Controls/Personal Protection

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL
Ethylene glycol	STEL: 50 ppm vapor fraction STEL: 10 mg/m ³ inhalable particulate matter, aerosol only TWA: 25 ppm vapor fraction	(vacated) Ceiling: 50 ppm (vacated) Ceiling: 125 mg/m ³
Thiram	TWA: 0.05 mg/m ³ inhalable fraction and vapor	TWA: 5 mg/m ³ (vacated) TWA: 5 mg/m ³

Engineering controls Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Personal protective equipment

Eye/Face Protection

Where there is potential for eye contact have eye flushing equipment available. Use eye protection to avoid eye contact. Safety glasses with side-shields. If splashes are likely to occur, wear: Face-shield.

Skin protection

Long sleeved clothing. Chemical resistant apron. Rubber gloves. Neoprene gloves.

Respiratory protection

Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134.

General hygiene considerations

Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance clear
Physical state Liquid
Odor Slight sweet
color Red

Property	VALUES	Remarks/ Method
pH	7.52	(1% solution)
Melting point/freezing point		None known
Boiling Point/Range		None known
Flash Point		None known
Evaporation Rate		None known
Flammability (solid, gas)		None known
Specific gravity	1.107	None known
Bulk density		None known
Water solubility		Dispersible
Solubility in Other Solvents	No information available	None known
Partition coefficient: n-octanol/water		None known
Autoignition temperature		None known
Decomposition temperature		None known
Viscosity	98.9 cP @ 20C	None known

9.2 OTHER INFORMATION- NONE

10. Stability and Reactivity

Reactivity

no data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous decomposition products

Carbon oxides.

11. Toxicological Information

Information on Likely Routes of Exposure

Product information	VITAFLO 280 Acute oral LD50 (rat) >500 - 5,000 mg/kg Acute dermal LD50 (rat) >2000 mg/kg Acute inhalation LC50 (rat) 4 hr >3.06 mg/l
Inhalation	Harmful if inhaled.
Eye contact	CAUSES EYE IRRITATION.
Skin contact	Prolonged skin contact may cause skin irritation.
Ingestion	MAY BE HARMFUL IF SWALLOWED.

Information on Toxicological Effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Mutagenic effects no data available.
Carcinogenicity The information below indicates whether any agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Thiram 137-26-8	-	Group 3		-

Reproductive effects Not Available.
STOT - Single Exposure no data available.
STOT - Repeated Exposure no data available.
Aspiration hazard No information available.

Numerical Measures of Toxicity - See above

12. Ecological Information

ecotoxicity

Thiram:
FISH LC50 = 0.046 mg/l

DAPHNIA EC50 = 0.011 mg/L 48 hr
 OTHER AQUATIC ORGANISMS EC50 = > 0.14mg/L
 Carboxin
 FISH LC50 = 2.3 mg/L 96 hr
 DAPHNIA EC50 = >57 mg/L 48 hr
 OTHER AQUATIC ORGANISMS EC50 = 0.48 mg/L 120 hr

Persistence/Degradability
 no data available.

Bioaccumulation/ Accumulation
 Bioaccumulative potential.

Chemical name	Log Pow
Carboxin 5234-68-4	2.17 - 2.19
Ethylene glycol 107-21-1	-1.93
Thiram 137-26-8	1.73

Other Adverse Effects
 no data available

13. Disposal Considerations

Waste Treatment Methods

Waste Disposal Method Pesticide wastes can be hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Contaminated packaging Refer to product label.

14. Transport Information

DOT When shipped in bulk, by vessel, or internationally refer to the IMDG shipping description:
 For this product packages over 9 gallons will meet the RQ and must be described as follows when moved domestically (U.S.):

UN/ID no UN3082
Proper shipping name Environmentally hazardous substance, liquid, n.o.s (Thiram)
Hazard class 9
Packing group PG III
Reportable Quantity (RQ): 10 lbs (Thiram)

TDG When shipped in Canada domestic highway non-bulk this product can be shipped as Not regulated as per TDG 1.45.1
 In bulk, by vessel or internationally - use IMDG description

IATA Single or inner packagings less than 5L (liquid) or 5kg net (solids) are excepted from the Dangerous Goods regulations (IATA Special provision A197)

UN/ID no UN3082
Proper shipping name Environmentally hazardous substances, liquid, n.o.s (Carboxin) (Thiram)

Hazard class 9
Packing group PG III
Description Marine pollutant

IMDG Single or inner packaging less than 5L (liquid) or 5 kg net (solids) are excepted from the Dangerous Goods regulations (IMDG 2.10.2.7)
UN/ID no UN3082
Proper shipping name Environmentally hazardous substances, liquid, n.o.s (Carboxin) (Thiram)
Subsidiary class 9
Packing group PG III
Environmental hazards Marine pollutant

15. Regulatory Information

This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word CAUTION

Keep out of Reach of Children. Harmful if swallowed or absorbed through the skin. Harmful if inhaled. Causes moderate eye irritation. Causes moderate skin irritation. Toxic to fish and aquatic invertebrates. Toxic to oysters and shrimp.

International Inventories

USINV Not present
DSL/NDSL Not present
EINECS/ELINCS Not Present
ENCS Not Present
China Not Present
KECL Not Present
PICCS Not Present
AICS Not Present
TSCA Not Present

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

CERCLA

Chemical name	RQ	CERCLA EHS RQs	RQ
Ethylene glycol	5000 lb		RQ 5000 lb final RQ

107-21-1			RQ 2270 kg final RQ
Thiram	10 lb		RQ 10 lb final RQ
137-26-8			RQ 4.54 kg final RQ

CERCLA

Component	RQ
Ethylene glycol 107-21-1 (10-20)	5000 lb
Thiram 137-26-8 (13.3)	10 lb

RCRA

Component	RCRA - D Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Thiram 137-26-8 (13.3)			U244

Pesticide Information

Component	FIFRA - Restricted Use	FIFRA - Pesticide Product Other Ingredients	FIFRA - Listing of Pesticide Chemicals	California Pesticides - Restricted Materials
Carboxin 5234-68-4 (15.6)			X	
Ethylene glycol 107-21-1 (10-20)			X	
Thiram 137-26-8 (13.3)			X	

State Regulations

Component	California Prop. 65
Ethylene glycol 107-21-1 (10-20)	Developmental

Prop 65 Pictogram



**Prop 65 Warning Statement
California Proposition 65**

WARNING
This product can expose you to chemicals which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Carboxin - 5234-68-4		X			
Ethylene glycol - 107-21-1	X	X	X	X	
Thiram - 137-26-8	X	X	X		

International regulations

U.S. EPA Label information

EPA Pesticide registration number 70506-553

16. Other Information

NFPA HEALTH 1 flammability 1 Instability 0 Physical hazard -

Preparation Date 22-Dec-2021

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Revision Summary

Update section 2 Update section 11 Update section 14

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End of SDS