# SAFETY DATA SHEET



# 1. Identification

**Product identifier** Discipline® 2 EC

Other means of identification

502 SDS number 5481-517 **Product registration** 

number

Recommended use

Pyrethroid type insecticide/miticide.

Recommended restrictions This is a Restricted Use Pesticide and is for use by licensed applicators only.

Keep out of the Reach of Children!

EPA: 5481-517 **EPA Registration number** 

Manufacturer/Importer/Supplier/Distributor information

**Company Name AMVAC Chemical Corporation** 

**Address** 4695 MacArthur Court

**Suite 1200** 

Newport Beach, CA 92660

**United States** 

**Telephone** 

949-260-1200 **AMVAC Chemical Corp AMVAC Chemical Corp** 949-260-6270(FAX) 888-462-6822 **Product Use** Website www.amvac.com E-mail CustServ@amvac.com

**Emergency phone number** 

Medical 888-681-4261 **CHEMTREC®** 800-424-9300

(USA+Canada)

**CHEMTREC®** (Outside

USA)

+1-703-527-3887

# 2. Hazard(s) identification

**Physical hazards** Flammable liquids Category 4 **Health hazards** Category 3 Acute toxicity, oral Acute toxicity, inhalation Category 4 Sensitization, skin Category 1B

> Carcinogenicity Specific target organ toxicity, single exposure Category 3 narcotic effects

Aspiration hazard

Category 1

Category 2

**Environmental hazards** Hazardous to the aquatic environment, acute

hazard

Category 1

Hazardous to the aquatic environment,

long-term hazard

Category 1

**OSHA** defined hazards

Not classified.

Label elements



Danger Signal word

Material name: Discipline® 2 EC 1538 Version #: 5.0 Revision date: Nov-17-2023 Issue date: Jan-20-2016

Combustible liquid. **Hazard statement** 

Toxic if swallowed. Harmful if inhaled.

May cause an allergic skin reaction. Suspected of causing cancer. May cause drowsiness or dizziness.

May be fatal if swallowed and enters airways.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

# **Precautionary statement**

Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Keep away from flames and hot surfaces. - No smoking.

Avoid breathing mist/vapors.

Do not eat, drink or smoke when using this product.

Avoid release to the environment. Wash thoroughly after handling.

Contaminated work clothing should not be allowed out of the workplace.

If swallowed: Immediately call a poison center/doctor. Rinse mouth. Response

Do NOT induce vomiting.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison

center/doctor if you feel unwell. If on skin: Wash with plenty of water.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

If exposed or concerned: Get medical advice/attention.

Collect spillage.

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

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations. **Disposal** 

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

This 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 in section 15. The pesticide label also includes other important information, including directions for use.

# 3. Composition/information on ingredients

#### **Mixtures**

Chemical name	Common name and synonyms	CAS number	%
Bifenthrin	Cyclopropanecarboxylic acid, 3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propenyl] -2,2-dimethyl-, (2-methyl[1,1'-biphenyl]-3-yl)methyl ester, (1R,3R)-rel-	82657-04-3	25.1
Solvent naphtha (petroleum), heavy aromatic		64742-94-5	50 - 70

#### Constituents

Chemical name	Common name and synonyms	CAS number	%
Naphthalene		91-20-3	< 7
1,2,4-Trimethylbenzene		95-63-6	< 1.5

#### 4. First-aid measures

Inhalation Move 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 center or doctor/physician for

further treatment advice.

Remove contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. Skin contact

Call a physician or poison control center for treatment advice.

#### Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eyes and lids with water. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a physician or poison control center for treatment advice.

#### Ingestion

Call a physician or poison control center immediately. Do not give any liquid to the person. Do not induce vomiting without advice from poison control center. Do not give anything by mouth to an unconscious person.

# Most important symptoms/effects, acute and delayed

Direct contact with eyes may cause temporary irritation. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

Bifenthrin is moderately toxic if swallowed and has a low dermal toxicity. Gastric lavage using an endotracheal tube may be preferred to vomiting. Reversible skin sensations (paresthesia) may occur and ordinary skin salves have been found useful in reducing discomfort.

This product contains aromatic hydrocarbons. Because of the risk of hydrocarbon pneumonic if even tiny amounts are aspirated into the lung during emesis, consideration should be given to gastric lavage with endotracheal tube in place.

#### General information

If exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

# 5. Fire-fighting measures

Suitable extinguishing media Unsuitable extinguishing media Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

equipment/instructions
Specific methods

General fire hazards

Use standard firefighting procedures and consider the hazards of other involved materials.

Combustible liquid.

#### 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe vapors or spray mist. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas. Siphon the majority of the liquid into drums for use or disposal, depending on the circumstances. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.

# **Environmental precautions**

Never return spills to original containers for reuse. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

#### 7. Handling and storage

Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Do not breathe vapors or spray mist. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. Avoid release to the environment. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (see Section 10 of the SDS). Store locked up.

### 8. Exposure controls/personal protection

#### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Permissible E Constituents	xposure Limits (PEL) for Air Type	Contaminants (29 CFR 1910.1000) Value	
Naphthalene (CAS 91-20-3)	PEL	50 mg/m3	
		10 ppm	
US. ACGIH Threshold Limit Values Constituents	(TLV) Type	Value	
1,2,4-Trimethylbenzene (CAS 95-63-6)	TWA	10 ppm	
Naphthalene (CAS 91-20-3)	TWA	10 ppm	
NIOSH. Immediately Dangerous to	Life or Health (IDLH) Values	, as amended	
Constituents	Туре	Value	
Naphthalene (CAS 91-20-3)	IDLH	0.9 %	
		250 ppm	
US. NIOSH: Pocket Guide to Chem	ical Hazards Recommended	Exposure Limits (REL)	
Components	Туре	Value	
Solvent naphtha (petroleum), heavy aromatic (CAS 64742-94-5)	TWA	100 mg/m3	
Constituents	Туре	Value	
1,2,4-Trimethylbenzene (CAS 95-63-6)	TWA	125 mg/m3	
		25 ppm	

Biological limit values

Naphthalene (CAS 91-20-3)

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

**Exposure guidelines** 

US - California OELs: Skin designation

Naphthalene (CAS 91-20-3) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Naphthalene (CAS 91-20-3) Danger of cutaneous absorption

**STEL** 

**TWA** 

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

75 mg/m3 15 ppm

50 mg/m3 10 ppm

Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear safety glasses with side shields (or goggles).

Skin protection

**Hand protection** Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove

supplier.

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

**Respiratory protection** If engineering controls do not maintain airborne concentrations below recommended exposure

limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

# 9. Physical and chemical properties

Appearance Amber to dark liquid

Physical state Liquid.
Form Liquid.

range

Initial boiling point and boiling  $\,$  >354 °F (>178.9 °C)

Flash point 150.8 °F (66 °C) Pensky-Martens Closed Cup

**Evaporation rate** 0.1 as compared to -Butyl acetate

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit lower (%) Not available

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 2.08 mm Hg approx. @ 68 °F

Vapor densityHeavier than airRelative densityNot available.

Solubility(ies)

Solubility (water) Emulsifiable

Solubility (solvents)

This product is soluble in aromatic solvents

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information The data presented in this section are typical values and should not be construed as a

specification.

Bulk density7.91 lb/galExplosive propertiesNot explosive.Oxidizing propertiesNot oxidizing.

10. Stability and reactivity

**Reactivity**The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous Hazardous polymerization does not occur.

reactions

Conditions to avoid Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition

products

This product may emit hazardous fumes of hydrogen chloride, carbon oxides, and unidentified organic compounds when it is heated excessively or burned. WEAR SELF-CONTAINED

BREATHING APPARATUS when these conditions are present.

# 11. Toxicological information

Information on likely routes of exposure

**Inhalation** Harmful if inhaled.

**Skin contact** May cause an allergic skin reaction.

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**Eye contact** Direct contact with eyes may cause temporary irritation.

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SDS US

Toxic if swallowed. May be harmful if swallowed and enters airways. Ingestion

Symptoms related to the physical, chemical and toxicological characteristics Contact with pyrethroid type compounds may occasionally produce skin sensitization such as rashes, numbing, burning or tingling. May cause an allergic skin reaction.

It should also be noted that because of the presence of petroleum distillates, prolonged or repeated liquid contact can result in defatting and drying of the skin, which may result in skin irritation and dermatitis. Vapors of petroleum distillates may produce CNS (Central Nervous System) depression. Continued exposure of skin and eyes to vapors or liquids may result in burns and/or irreversible damage.

Information on toxicological effects

Toxic if swallowed. Harmful if inhaled. Acute toxicity

**Product Test Results Species** 

Discipline® 2 EC

<u>acute</u>

dermal

LD50 Rabbit > 2000 mg/kg

inhalation

LC50 Rat 1.86 mg/L, 4 hr aerosol

oral

LD50 Rat 262 mg/kg

Skin corrosion/irritation Not irritating to skin.

Serious eye damage/eye

irritation

Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Not classified. Germ cell mutagenicity

Suspected of causing cancer. Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Naphthalene (CAS 91-20-3) 2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

**US. National Toxicology Program (NTP) Report on Carcinogens** 

Naphthalene (CAS 91-20-3) Known To Be Human Carcinogen.

Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity -

single exposure

May cause drowsiness or dizziness.

Specific target organ toxicity -

repeated exposure

Excessive exposure may produce effects on the nervous system such as tremors and

convulsions. Other laboratory reports indicate effects on the mucous membranes based on bloody

discharge from the nose.

**Aspiration hazard** May be harmful if swallowed and enters airways.

**Chronic effects** Prolonged inhalation may be harmful.

12. Ecological information

Very toxic to aquatic life with long lasting effects. **Ecotoxicity** 

**Test Results** Components **Species** 

Bifenthrin (CAS 82657-04-3)

**Aquatic** Acute

Crustacea LC50 0 - 0.0002 mg/l, 48 hours Water flea (Ceriodaphnia dubia)

> 0.0001 - 0.0009 mg/l, 48 hours Water flea (Daphnia magna)

Persistence and degradability No data is available on the degradability of this product.

**Bioaccumulative potential** 

Partition coefficient n-octanol / water (log Kow)

Bifenthrin < 6

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Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation

potential, endocrine disruption, global warming potential) are expected from this component.

#### 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow

this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches

with chemical or used container. Dispose of contents/container in accordance with

local/regional/national/international regulations.

Dispose in accordance with all applicable regulations. Local disposal 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 in accordance with all applicable regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions).

Since emptied containers may retain product residue, follow label warnings even after container is Contaminated packaging

emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

# 14. Transport information

DOT

UN3352 **UN** number

**UN** proper shipping name Transport hazard class(es) Pyrethroid pesticide, liquid toxic (Bifenthrin)

Class 6.1 Subsidiary hazard Label(s) 6.1 Packing group Ш **Environmental hazards** 

Marine pollutant Nο

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions IB3, T7, TP2, TP28

Packaging exceptions 153 Packaging non bulk 203 Packaging bulk 241

IATA

UN3352 **UN** number

**UN** proper shipping name Pyrethroid pesticide, liquid, toxic (Bifenthrin)

Transport hazard class(es)

Class 6.1 **Subsidiary hazard** Ш Packing group **Environmental hazards** No **ERG Code** 6L

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo

Allowed with restrictions.

aircraft

Allowed with restrictions. Cargo aircraft only

Read safety instructions, SDS and emergency procedures before handling.

**IMDG** 

**UN number** UN3352

**UN proper shipping name** Transport hazard class(es) PYRETHROID PESTICIDE, LIQUID, TOXIC (Bifenthrin), MARINE POLLUTANT

6.1 **Subsidiary hazard** Ш Packing group **Environmental hazards** 

> Marine pollutant Yes F-A. S-A

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

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

Not established.

DOT



IATA; IMDG



Marine pollutant



**General information** 

IMDG Regulated Marine Pollutant.

### 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 as a RESTRICTED USE PESTICIDE. 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.

WARNING: May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Causes moderate eye irritation. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

#### **ENVIRONMENTAL HAZARDS**

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

PHYSICAL AND CHEMICAL HAZARDS

Do not use or store near heat or open flame.

#### **Toxic Substances Control Act (TSCA)**

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

Not regulated.

### **CERCLA Hazardous Substance List (40 CFR 302.4)**

Naphthalene (CAS 91-20-3) Listed. Solvent naphtha (petroleum), heavy aromatic Listed.

(CAS 64742-94-5)

#### SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

### SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

chemical

Yes

Classified hazard categories

Flammable (gases, aerosols, liquids, or solids)

Acute toxicity (any route of exposure) Respiratory or skin sensitization

Carcinogenicity

Specific target organ toxicity (single or repeated exposure)

Aspiration hazard

#### SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Bifenthrin	82657-04-3	25.1

#### SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.	
1,2,4-Trimethylbenzene	95-63-6	< 1.5	
Naphthalene	91-20-3	< 7	

#### Other federal regulations

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

Naphthalene (CAS 91-20-3)

### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Contains component(s) regulated under the Safe Drinking Water Act.

(SDWA)

#### US state regulations

#### California Proposition 65



WARNING: This product can expose you to Naphthalene, which is known to the State of California to cause

cancer. For more information go to www.P65Warnings.ca.gov.

# California Proposition 65 - CRT: Listed date/Carcinogenic substance

Naphthalene (CAS 91-20-3) Listed: April 19, 2002

#### **International Inventories**

Country(s) or region Inventory name On inventory (yes/no)\*

United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory Nο

\*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

Jan-20-2016 Issue date Nov-17-2023 **Revision date** 

Version # 5.0 **HMIS®** ratings Health: 2

Flammability: 1 Physical hazard: 0

NFPA ratings Health: 2

Flammability: 1 Instability: 0

Disclaimer

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**Revision information** This document has undergone significant changes and should be reviewed in its entirety.