



# Zyrate

## Safety Data Sheet

Revision date: May 6, 2015

### Section 1 – Chemical Product and Company Identification

**Product Name:** Zyrate

**CAS #** 66230-04-4

**EPA Reg. #:** 71532-21-83979

**Product Use:** Restricted Use Insecticide

**Company Identification:** Rotam North America, Inc.  
4900 Koger Blvd., Suite #140  
Greensboro, NC 27407  
Phone: 1-(866) 927-6826 (toll free);  
1-(336) 346-8802  
[msds@rotam.com](mailto:msds@rotam.com)

### Section 2 – Hazards identification

**Classification of substance:**



**Fatal if swallowed**

**Several toxic to environment**

**Flammable liquid and Vapour**

**Harmful if inhaled**

**Cause eye irritation**

**GHS labeling elements:**

The substance is classified and labeled according to the Globally Harmonized System (GHS):

**Hazard pictograms:**



GHS06

GHS09

GHS02

**Signal Word:** Danger

**Hazard-determined components of labeling:** Esfenvalerate

**Hazard statements:**

**Fatal if swallowed**

**Several toxic to environment**

**Flammable liquid and Vapour**

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### Harmful if inhaled

Cause eye irritation

### Precautionary Statements:

#### Prevention:

Keep away from heat/ sparks/open flames/hot surfaces.

Keep container tightly closed.

Ground/Bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting and equipment.

Use only non-sparking.

Take precautionary measure against static discharge.

Wear protective gloves/eye protection and face protection.

Wash hands thoroughly after handling.

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

Avoid breathing/dust/fume/gas/mist/vapour/spray.

Avoid release to the environment

Use only outdoor or in a well-ventilated area.

#### Response:

**If Swallowed:** Immediately call poison center or physician. Rinse mouth.

**If inhaled:** Remove person to fresh air and keep in position comfortable for breathing. Call a poison center or physician if you feel unwell.

**In case of Fire:** Remove unauthorized persons and call emergency response.

**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 or attention.

#### Collect spillage

**If on Skin: Take off immediately all contaminated clothing. Rinse skin with water.**

**Storage:** Store in a well-ventilated place. Keep cool. Store locked up.

**Disposal:** Dispose of contents and containers in accordance with local, regional, national, and international regulations.

## Section 3 – Composition/information of ingredient

Chemical Name	Trade names and Synonyms	Percent	CAS No.
Esfenvalerate	Esfenvalerate:(S)- $\alpha$ -cyano-3-phenoxybenzyl (S)-2-(4-chlorophenyl)-3-methylbutyrate	8.4%	66230-04-4
	Proprietary components	91.6%	

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### Section 4 – First Aid Measures

Symptoms	Transient (several minutes up to approximately 24 hours) persistent burning or prickling sensation, which may be accompanied by visible irritation or rash. Effects of single dermal exposure include ataxia, tremors, constricted pupils and hind limb incoordination. A single oral dose nervous system changes including splayed gait, tremors, ataxia, and hind limb incoordination. Repeated doses can cause excessive grooming and neurological changes such as limb incoordination, unsteady gait tremors, convulsions and nonspecific effects such as weight loss.
Swallowed:	Call poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
Inhalation:	May cause irritation. Remove to fresh air. If person stops breathing or irregular, give artificial respiration and supply oxygen. Call a poison control center or doctor for further treatment advice
Eyes:	May cause irritation. Do not rub eyes. Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye
Skin:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes.

#### Note to Physicians

If on skin after drying apply vitamin E cream or oil if available. If not available, apply vegetable oil liberally over painful areas. The oil or cream may be used repeated until relief is achieved. Contains xylene range aromatic solvent-vomiting may cause aspiration pneumonia.

For current information about the treatment, consult a certified Regional Poison Control Center by calling the number listed in your local telephone directory. Notify medical personnel of contaminated situations and have them take appropriate protective measure.

### Section 5 – Fire Fighting Measure

**Extinguishing media:** Use water spray, water fog, dry chemical and carbon dioxide.

**Fire and Explosive Hazards:** Combustible

**Special fire fighting procedures:** Fireman should wear positive pressed freely breathing devices, complete fire protection clothes and shoes. Do not access if tank is on fire. Use water to cool exposed containers to extinguish fire. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Avoid inhalation of materials or combustion by-product. Vapor or gas is burned at distant ignition sources can be spread quickly.

**Reference to other sections:**

See Section 10 for decomposition products.

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### Section 6 – Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** Wear approved respiratory protection, chemically compatible gloves and protective clothing. Keep unprotected persons away. Allow work against the wind and remove all people upwind. Do not direct water at spill or source leak. Caution combustible.

**Environmental precautions:** Prevent runoff and contact with sources of water including but not limited to drains, sewers, lakes and ponds. In case of large spill, inform the relevant authorities.

**Methods and material for containment and cleaning up:**

**In case small leak or spill:** soak up with sand, earth or synthetic absorbent (Do not use alkaline absorbents) and dispose of waste in compliance with local, state, and Federal regulations. Sweep up material, place in a bottle (non-leaking container), and hold for waste disposal.

**In case large leak or spill:** Eliminate potential source of ignition. Wear appropriate respirator and other protective clothing. Shut off source of leak only if safe to do so. Dike and contain. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, other suitable material; place in non-leaking containers and seal tightly for proper disposal. Flush area with water to remove trace residue; dispose of flush solution as above.

**Reference to other sections:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### Section 7 – Handling and Storage

**Handling**

**Precautions for safe handling:** Do not swallow. Do not get in eyes, on skin or clothing. Avoid breathing vapors or mist. Wash thoroughly after handling. Wash clothing after use. Discard shoes if contaminated. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Do not contaminate water, food, or feed by storage. Since emptied containers retain product residue(vapor, liquid, solid) follow all MSDS and label warnings even after container is empty. Keep protective respiratory device available.

**Conditions for Safe Storage, including any incompatibilities**

**Storage:** Store in original container only. Keep container closed when not in use. Do not store near food or feed. Avoid direct sunlight. Do not apply physical shock to container. Avoid contact with water.

**Requirements to be met by storerooms and receptacles:** Store in a secure, dry and temperate area. Do not use or store around the home.

**Reference to other sections:**

See Section 10 for incompatibilities

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### Section 8 – Contact Controls and Personal Protection

**Max allowed concentration:** No Data

**Way of measurement:** No Data

**Engineering Control:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep risk of inhalation low. Take safety shower after handling equipment. Use explosion proof ventilation as required to control vapor concentrations. Keep liquid and vapor away from heat, sparks, or flame. Surfaces that are sufficiently hot may ignite liquid product even in the absence of sparks or flame. Extinguish pilot lights, cigarettes and turn off other source of ignition prior to use and until all vapors are gone. Do not cut, drill, grind or weld on or near container: even emptied containers can contain explosive vapors.

#### Personal Protection

**Respirators:** Under conditions of frequent use or heavy exposure, respirator equipment may be needed. Use any chemical cartridge respirators with organic vapor cartridge(s). Use any chemical cartridges respirator with a full facepiece and organic vapor cartridge. Use any air-purifying respirator with a full facepiece and an organic vapor canister. Use any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles such as splash resistant safety goggles with a secondary protection faceshield. Provide an emergency eye wash station and quick drench shower in the immediate work area.

**Body:** Wear appropriate chemical resistant overalls and rubber boots and rubber gloves. Avoid any skin exposure.

**Hands:** Wear appropriate gloves, such as barrier laminate or neoprene rubber or nitrile rubber or Viton.

**General protective and hygienic measures:** Discard clothing other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Wash contaminated clothing before reuse. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. No smoking, eating or drinking during handling. Change to clean clothes after washing.

**Other conditions:** When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### Section 9 – Physical and Chemical Properties

#### Information on basic physical and chemical properties

##### General Information:

**Appearance and Physical State:** Fluid (EC based on water), Oily/aromatic odor

**Color:** Straw to light amber

**pH Value:** 5.16

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**Viscosity:** Not available

**Vapor Pressure (25 °C):** Not available

**Melting point:** Not available

**Boiling Point:** Not applicable

**Specific Gravity:** Not available

**Comparative concentration (water: 1):** Not available (not required for end use)

**Quantity of heat in burning (KJ/mol):** Not available (not required for end use)

**Density (g/cm<sup>3</sup>):** 0.908 at 25°C

**Critical pressure (Mpa):** Not available

**Critical temperature:** Not available

**Flash point (C):** > 110

**Burning temperature (C):** Not available

**Explosion:** PEL (OSHA): None Established

TLV (ACGIH): None Established

**Solubility:** Soluble in water and sparingly in alcohol and methanol; less soluble in dehydrated alcohol; insoluble in chloroform and in ether.

### Section 10 – Stability and Reactivity

**Chemical Stability:** This material is stable at the normal storage conditions.

**Incompatible to Avoid:** Alkaline materials should be avoided. Avoid heat, flame and contact with strong oxidizing agents.

**Conditions to Avoid:** Avoid accumulation of electrostatic charges, heating, flames, and hot surface.

**Decomposition Products:** Hydrogen cyanide may be formed by thermal decomposition or reaction with alkaline material

**Hazardous Polymerization:** Will not occur

**Reference to other sections:**

See Section 5 for static discharge potential

### Section 11 – Toxicological Information

**Acute Toxicity:**

**LD/LC50 values that are relevant for classification:**

**Oral:** LD<sub>50</sub> : > 458 mg/kg

**Inhalation:** LC<sub>50</sub> > 2.93 mg/L

**Dermal:** LD<sub>50</sub> > 2,000 mg/kg

**Eyes:** Minimally Irritating

**Skin:** Not a skin sensitizer

**Primary irritant effect:**

**If swallowed:** Fatal if swallowed. No hazards anticipated from swallowing small amounts incidental to normal handling operation.

**If inhaled:** Avoid breathing in mist or vapors. When heated decomposed to hydrogen cyanide.

**On eyes:** Minimally irritating to the eye

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**On the skin:** Slight irritating to skin

**Respiratory sensitization:** Single exposure to dust is not likely to be hazardous. Vapors are unlikely due to physical properties.

**Skin Sensitization:** Product is not considered a contact sensitizer.

**Germ Cell Mutagenicity:** The chromosome aberration test was negative.

**Carcinogenicity:** This products component are not listed by IARC, NNTP, OSHA or ACGIH as a cacinogen

**Reproductive Toxicity:** Not available

**STOT-Single Exposure:** Not available

**STOT-Repeated Exposure:** Not available

**Aspiration Hazard:** Not available

**Preexisting condition:** Individual with preexisting disease of the liver, kidney skin of peripheral nervous system my have increased susceptibility to the toxicity of excessive exposure.

### Section 12 – Ecological Data

**Eco-toxicity:**

**Esfenvalerate**

**96 hour LC<sub>50</sub>- Bluegill sunfish:** 0.26ug/l

**96 hour LC<sub>50</sub>- Rainbow trout:** 0.26ug/l

**96 hour LC<sub>50</sub>-Fathead minnows:** 0.18ug/l

**Aquatic Toxicity:** This pesticide is extremely toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply 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 cleaning equipment or when disposing of equipment rinsate.

**Bee Toxicity:** 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 if bees are visiting the treatment area.

### Section 13 – Disposal Considerations

**Waste Disposal:** Do not contaminate water, food, or feed by disposal. Dispose of waste in accordance with all applicable Federal, State, and local laws. Improper disposal of excess pesticide, spray mixture, or rinsate is violation of Federal Law. If these waste cannot be disposed of by use 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.

**Container Disposal:** Do not distribute, make available, furnish or reuse empty containers. Triple rinse (or equivalent), then offer for recycling or reconditioning if container reuse is permitted. If container reuse is prohibited, puncture metal containers and dispose of in a sanitary landfill, or by other approved State and local authorities, If burned, stay out of smoke.

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### Section 14 – Transport Information

**DOT CLASSIFICATION:**

**Non-bulk:** Not regulated and requires no markings, labels, or placards.

**Bulk:** UN3082, Environmentally hazardous substance, liquid, n.o.s. (esfenvalerate), 9, PGIII, marine pollutant.  
(Note for bulk shipments: If labeled or placarded properly, no marine pollutant marking is required)

**INTERNATIONAL TRANSPORTATION:**

**IMO (vessel):** UN3082, Environmentally hazardous substance, liquid, n.o.s. (esfenvalerate), 9, PGIII, marine pollutant

**IATA (air):** UN3082, Environmentally hazardous substance, liquid, n.o.s. (esfenvalerate), 9, PGIII, marine pollutant

**Storage:** Store in a cool place, keeping away from heat and light.

### Section 15 – Regulatory Data

**U.S. Federal Regulations**

Hazard Data	FIFRA Classification/Typical Hazard Labeling, as outlined in EPA Label Review Manual	OSHA HCS Requirement for Section 2 of SDS
Signal Word	<b>WARNING</b>	<b>DANGER</b>
Acute Toxicity, oral LD <sub>50</sub> > 458 mg/kg	(Category II) May be fatal if swallowed	(Category 2) Skull and Crossbones Fatal if swallowed
Acute Toxicity, dermal LD <sub>50</sub> > 2,000 mg/kg	(Category III) Harmful if absorbed through skin	(Category 5) May be harmful in contact with skin
Acute Toxicity, inhalation LD <sub>50</sub> > 2.93 mg/L	(Category IV) No required hazard labeling	(Category 4) Harmful if inhaled
Skin Irritation	Not labeled	Not classified
Eye Irritation	(Category IV) Not required hazard labeling	(Category 2B) Cause eye irritation
Sensitization	Not labeled	Not classified
Germ Cell Mutagenicity	Not labeled	Not classified
Carcinogenicity	Not labeled	Not classified
Reproductive/developmental Toxicity	Not labeled	Not classified
Specific target organ toxicity, single exposure	Not labeled	Not classified
Specific target organ toxicity,	Not labeled	Not classified



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repeated exposure		
Aspiration	Not labeled	Not classified
Environmental (aquatic) toxicity	This pesticide is extremely toxic to fish and aquatic invertebrate	Not within OSHA's jurisdiction, therefore not required on SDS. Optional GHS aquatic toxicity symbol and hazard statement: Several toxic to environment

**FIFRA Classification:** 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 included other important information, including direction for use. Following is the hazard information as required on the pesticide label:

WARNING

RESTRICTED USE PESTICIDE

May be fatal if swallowed

Harmful if absorbed through skin.

Do not get in eyes, on skin, or on clothing.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove contaminated clothing and wash clothing before reusing.

This pesticide is extremely toxic to fish and aquatic invertebrates.

**Restricted Use Pesticide: Due to Toxicity to Fish and Aquatic Organism.**

**TITLE II HAZARD CLASSIFICATIONS SECTIONS 311, 312**

**Acute: Yes**

**Chronic: Yes**

**Fire: No**

**Reactivity: No**

**Pressure: No**

**Section 302 Extremely Hazardous Substance: None**

**CERCLA Reportable Quantity: None**

### GHS Label Elements

The substance is classified and labeled according to the Globally Harmonized System (GHS):

**Hazard pictograms:**

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GHS06



GHS09



GHS02

**Signal Word: Danger**

**Hazard-determined components of labeling:** Esfenvalerate

**Hazard statements:**

**Fatal if swallowed**

**Several toxic to environment**

**Flammable liquid and Vapour**

**Harmful if inhaled**

**Cause eye irritation**

**Precautionary Statements:**

**Prevention:**

Keep away from heat/ sparks/open flames/hot surfaces.

Keep container tightly closed.

Ground/Bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting and equipment.

Use only non-sparking.

Take precautionary measure against static discharge.

Wear protective gloves/eye protection and face protection.

Wash hands thoroughly after handling.

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

Avoid breathing/dust/fume/gas/mist/vapour/spray.

Avoid release to the environment

Use only outdoor or in a well-ventilated area.

**Response:**

**If Swallowed:** Immediately call poison center or physician. Rinse mouth.

**If inhaled:** Remove person to fresh air and keep in position comfortable for breathing. Call a poison center or physician if you feel unwell.

**In case of Fire:** Remove unauthorized persons and call emergency response.

**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 or attention.

**Collect spillage**

**If on Skin: Take off immediately all contaminated clothing. Rinse skin with water.**

**Storage:** Store in a well-ventilated place. Keep cool. Store locked up.

**Disposal:** Dispose of contents and containers in accordance with local, regional, national, and international regulations.

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### Section 16 – Additional information

**Reference:** The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein. This Safety Data Sheet was compiled with data and information from the following source: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

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