

1. IDENTIFICATION

Date of issue: April 2015
Product Name: Grass Killer contains Vantage
Recommended Use*: herbicide

* The "Recommended use" identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Company: Southern Agricultural Insecticides, Inc
P.O. Box 218
Palmetto, FL 34220
(941) 722-3285 Chemtrec (800) 424-9300 (24 hour transportation spill response)
Emergency telephone number: CHEMTREC: 1-800-424-9300

Other means of identification

Chemical family: heterocyclic, ketone, derivative
Synonyms: sethoxydim

2. HAZARD(S) IDENTIFICATION

According to Regulation 2012 OSHA Hazard Communication Standard: 29 CFR Part 1910.1200

Classification of the product

Asp. Tox.	1	Aspiration hazard
Flam. Liq.	4	Flammable liquids
Carc.	2	Carcinogenicity
STOT SE	(Vapors may cause drowsiness and dizziness.)	Specific target organ toxicity - single exposure
Aquatic Acute	2	Hazardous to the aquatic environment - acute
Aquatic Chronic	2	Hazardous to the aquatic environment - chronic

Label elements**Pictograms****Signal Word:** Danger**Hazard Statement:**

H227 Combustible liquid.
H304 May be fatal if swallowed and enters airways.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H401 Toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention)

- P280 Wear protective gloves/protective clothing/eye protection/face protection.
P201 Obtain special instructions before use.
P273 Avoid release to the environment.
P271 Use only outdoors or in a well-ventilated area.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P308 + P311
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P202 Do not handle until all safety precautions have been read and understood.

Precautionary Statements (Response):

- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P308 + P311 IF exposed or concerned: Call a POISON CENTER or doctor/physician.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P391 Collect spillage.
P331 Do NOT induce vomiting.
P370 + P378 In case of fire: Use water spray, dry powder, foam or carbon dioxide for extinction.

Precautionary Statements (Storage):

- P233 Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Precautionary Statements (Disposal):

- P501 Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

Labeling of special preparations (GHS):

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 3 % dermal

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 3 % oral

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 66 - 71 % Inhalation - vapor

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 66 - 71 % Inhalation - mist

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200 Emergency overview

CAUTION:

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

KEEP OUT OF REACH OF CHILDREN.

KEEP OUT OF REACH OF DOMESTIC ANIMALS.

CAUSES EYE INJURY.

Avoid contact with the skin, eyes and clothing.

3. COMPOSITION/INFORMATION ON INGREDIENTS

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Content (W/W)	Chemical name
74051-80-2	13.0 %	Sethoxydim
91-20-3	1.2 %	naphthalene
	85.8 %	Proprietary ingredients

4. FIRST AID MEASURES

General information

First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled: Remove the affected individual into fresh air and keep the person calm. Keep patient calm, remove to fresh air, seek medical attention.

If on skin: Rinse skin immediately with plenty of water for 15 - 20 minutes. Immediately wash thoroughly with soap and water, seek medical attention.

If in eyes: Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed: Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Do not induce vomiting. Have person sip a glass of water if able to swallow. Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention. Do not induce vomiting due to aspiration hazard.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Hazards: Because of the increased risk of chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent, vomiting should be induced only under professional supervision.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: foam, dry powder, carbon dioxide, water spray

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

carbon monoxide, carbon dioxide, Hydrocarbons, nitrogen oxides, sulfur oxides

If product is heated above decomposition temperature, toxic vapors will be released. The substances/groups of substances mentioned can be released if the product is involved in a fire.

Advice for fire-fighters

Protective equipment for fire-fighting: Firefighters should be equipped with self-contained breathing apparatus and turnout gear.

Further information:

Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Methods and material for containment and cleaning up

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapors. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:

The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Conditions for safe storage, including any incompatibilities

Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

Protect from temperatures below: -20°C

Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.

Protect from temperatures above: 40°C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Components with occupational exposure limits

solvent naphtha OSHA PEL PEL 100 ppm 400 mg/m³ ; TWA value 100 ppm 400 mg/m³

Advice on system design:

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapors. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection: Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection: Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection: Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures: Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	liquid	
Odor:	moderate odor, aromatic	
Odor threshold:		Not determined due to potential health hazard by inhalation.
Color:	straw yellow, clear	
pH value: approx.	2 - 4	(20°C)
Melting point:	approx. -16°C	Information applies to the solvent.
Boiling range:	approx. 344-354°C	Information applies to the solvent.
Flash point:	74°C 165°F	(ASTM 03278, closed cup) (ASTM 03278, closed cup)
Flammability:	not applicable	
Lower explosion limit:		As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use
Upper explosion limit:		As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use
Autoignition:	approx. 256 - 266°C	Information applies to the solvent.
Vapor pressure:	negligible	
Density:	approx. 0.91 g/cm ³ approx. 7.5943 Lb/USg	(20°C) (68 °F)
Vapor density:		
Thermal decomposition:	carbon monoxide, carbon dioxide, Sulphur dioxide, nitrogen dioxide, nitrogen oxide, Hydrocarbons Stable at ambient temperature. If product is heated above decomposition temperature toxic vapors may be released.	
Viscosity, dynamic:	approx. 8 mPa.s	(20°C)
Solubility in water:	emulsifiable	
Molar mass:	327.5 g/mol	
Evaporation rate:	not applicable	
Other Information:	The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.	

10. STABILITY AND REACTIVITY

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: Corrosive effects to metal are not anticipated.

Oxidizing properties: Based on its structural properties the product is not classified as oxidizing.

Chemical stability The product is stable if stored and handled as prescribed/indicated.
Possibility of hazardous reactions The product is chemically stable. Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid
Incompatible materials oxidizing agents

Hazardous decomposition products
Decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

Possible thermal decomposition products: carbon monoxide, carbon dioxide, Sulphur dioxide, nitrogen dioxide, nitrogen oxide, Hydrocarbons Stable at ambient temperature. If product is heated above decomposition temperature toxic vapors may be released.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Slightly toxic after single ingestion. Slightly toxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

Oral

Type of value: LD50
Species: rat (male/female)
Value: > 2,200 mg/kg (OECD Guideline 401)
Test conducted with a similar formulation. No mortality was observed.

Inhalation

Type of value: LC50
Species: rat (male/female)
Value: > 5.0 mg/l (OECD Guideline 403)
Exposure time: 4 h
An aerosol was tested. No mortality was observed.

Dermal

Type of value: LD50
Species: rat (male/female)
Value: > 2,000 mg/kg (OECD Guideline 402)
Test conducted with a similar formulation. No mortality was observed.

Irritation / corrosion

Assessment of irritating effects: May cause moderate but temporary irritation to the eyes. May cause slight irritation to the skin.

Skin

Species: rabbit
Result: non-irritant
Method: OECD Guideline 404
Test conducted with a similar formulation.

Eye

Species: rabbit
Result: moderately irritating

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Skin sensitization test

Species: guinea pig

Result: Skin sensitizing effects were not observed in animal studies.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: naphthalene

Assessment of repeated dose toxicity: Repeated oral uptake of the substance did not cause substance-related effects. The substance may cause damage to the olfactory epithelium after repeated inhalation. Repeated dermal uptake of the substance did not cause substance-related effects.

Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: sethoxydim

Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: sethoxydim

Assessment of teratogenicity: Causes developmental effects in animals at high, maternally toxic doses.

Other Information

Misuse can be harmful to health.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Medical conditions aggravated by overexposure

Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures.

12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to fish. Acutely harmful for aquatic invertebrates. Very toxic (acute effect) to aquatic plants.

Toxicity to fish

Information on: sethoxydim LC50 (96 h) 3.5 mg/l, *Cyprinodon variegatus*

Aquatic invertebrates

Information on: sethoxydim EC50 (96 h) 0.8 mg/l, *Mysidopsis bahia*

Aquatic plants

Information on: sethoxydim No observed effect concentration (21 d) 0.1 mg/l (growth rate), aquatic plant (stetic)
EC50 (21 d) 0.3 mg/l (growth rate), aquatic plant (static)

Assessment of terrestrial toxicity

With high probability not acutely harmful to terrestrial organisms.

Other terrestrial non-mammals

Information on: sethoxydim LO50> 10 ug/bee, *Apis mellifera* LC50, *Anas platyrhynchos*

Persistence and degradability

Assessment biodegradation and elimination (H20)

The product has not been tested. The statement has been derived from the properties of the individual components.

Assessment biodegradation and elimination (H20)

Information on: sethoxydim According to OECD criteria the product is not readily biodegradable but inherently biodegradable.

Bioaccumulative potential

Assessment bioaccumulation potential

The product has not been tested. The statement has been derived from the properties of the individual components.

Mobility in soil

Assessment transport between environmental compartments

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: sethoxydim Adsorption to solid soil phase is not expected.

Additional information

Other ecotoxicological advice:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

13. DISPOSAL CONSIDERATIONS

Waste disposal of substance:

Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA:

This product is not regulated by RCRA.

14. TRANSPORT INFORMATION

Land transport

USDOT Classified as combustible liquid in containers greater than 119 gallons.

Sea transport

IMDG Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO Not classified as a dangerous good under transport regulations

Further information

DOT: Combustible liquid, only regulated in receptacles exceeding 119 gallons; not shipped as dangerous goods in receptacles less than 120 gallons.

15. REGULATORY INFORMATION

Federal Regulations:

Registration status:

Crop Protection	TSCA, US	released 1 exempt
Chemical	TSCA, US	blocked 1 not listed

EPCRA 311/312 (Hazard categories): Acute; Chronic; Fire

EPCRA 313:

<u>CAS Number</u>	<u>Chemical name</u>
91-20-3	naphthalene
74051-80-2	Sethoxydim

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
100 LBS	91-20-3	naphthalene

<u>State regulations</u>	CAS Number	Chemical name
State RTK		
NJ	74051-80-2	Sethoxydim
MA, NJ, PA	91-20-3	naphthalene

CA Prop. 65:

WARNING: THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

Labeling requirements under FIFRA

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 workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

CAUTION:

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

KEEP OUT OF REACH OF CHILDREN.

KEEP OUT OF REACH OF DOMESTIC ANIMALS.

Causes eye irritation.

Avoid contact with the skin, eyes and clothing.

16. OTHER INFORMATION

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

