



SAFETY DATA SHEET

Issue Date 18-Sep-2018

Revision Date 18-Sep-2018

Version 1

1. IDENTIFICATION

Product identifier

Product Name Salvus

Other means of identification

Product Code 83979-8

Synonyms None

Registration Number(s) 83979-8

Recommended use of the chemical and restrictions on use

Recommended Use Herbicide

Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address

Rotam North America, Inc.
4900 Koger Blvd., Suite# 140
Greensboro, NC 27407
Website: msds@rotam.com

Emergency telephone number

Company Phone Number 1-866-927-6826 (toll free)

1-336-346-8802

Emergency Telephone

CHEMTREC: 800-424-9300

CHEMTREC: 703-527-3887

POISON CONTROL CENTER: 800-222-1222

NPIC: 1-800-858-7378

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
Serious eye damage/eye irritation	Category 2B
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Emergency Overview

Warning

Hazard statements

Harmful if swallowed
Harmful if inhaled
Causes skin irritation
Causes eye irritation
May cause an allergic skin reaction
Suspected of causing cancer
May cause damage to organs through prolonged or repeated exposure

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

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Do not breathe dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Contaminated work clothing should not be allowed out of the workplace
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
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 ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

May be harmful in contact with skin. Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

Unknown acute toxicity

2.5% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS**Substance**

Not applicable

Mixture

Chemical Name	CAS No	Weight-%
Acetochlor	34256-82-1	75.9
Other ingredients *	Proprietary	5 - 10
Solvent naphtha, petroleum, heavy aromatic *	64742-94-5	3 - 7
2-Methylnaphthalene *	91-57-6	1 - 5
Furilazole *	121776-33-8	1 - 5
Naphthalene *	91-20-3	1 - 5
1-Methylnaphthalene *	90-12-0	1 - 5

*The exact percentage (concentration) of composition has been withheld as a trade secret. If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice	Call a poison control center or doctor for treatment advice. Have the product containers or label with you when calling a poison control center or doctor, or going for treatment.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Call a poison control center or doctor for treatment advice.
Inhalation	Move victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician or poison control center immediately. Call a poison control center or doctor for treatment advice.
Ingestion	Call a physician or poison control center immediately. Drink 1 or 2 glasses of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms	May cause redness and tearing of the eyes. May cause skin irritation. Coughing and/ or wheezing. May cause allergic skin reaction.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical, CO₂, water spray or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. Water spray, fog or regular foam.

Unsuitable extinguishing media None.

Specific hazards arising from the chemical

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

Hazardous combustion products Carbon oxides. Hydrogen chloride.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

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. Cool containers / tanks with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

For emergency responders Use personal protection recommended in Section 8. Ventilate the area.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Cover liquid spill with sand, earth or other non-combustible absorbent material. Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs. Keep in properly labeled containers.

Packaging materials Do not reuse container.

Incompatible materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Solvent naphtha, petroleum, heavy aromatic 64742-94-5	TWA - 200 mg/m ³ (non-aerosol as total hydrocarbon)	TWA - 400 mg/m ³ (hydrocarbons, unspecified)	-

2-Methylnaphthalene 91-57-6	TWA: 0.5 ppm S*	-	-
Naphthalene 91-20-3	TWA: 10 ppm S*	TWA: 10 ppm TWA: 50 mg/m ³	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m ³ STEL: 15 ppm STEL: 75 mg/m ³
1-Methylnaphthalene 90-12-0	TWA: 0.5 ppm S*	-	-

Legend

S* - Skin Absorber

NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls Ensure adequate ventilation, especially in confined areas. And. Showers. Eyewash stations. Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear suitable protective clothing. Wear protective butyl rubber gloves. Protective shoes or boots.
Respiratory protection	Ensure adequate ventilation, especially in confined areas. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	Slight sweet
Appearance	Liquid	Odor threshold	No information available
Color	blue purple		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	Not applicable
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	> 100 °C / > 212 °F	Seta Closed Cup
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	~0.5 mmHg	@ 25 °C
Vapor density	No information available	
Relative density	1.1071	
Water solubility	Emulsifies	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	

Decomposition temperature	No information available	
Kinematic viscosity	> 20.5 mm ² /s	@ 40 °C
Dynamic viscosity	No information available	
Explosive properties	Not an explosive	
Oxidizing properties	Not applicable	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

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

Elevated Temperature. Storage near to reactive materials.

Incompatible materials

Strong oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon oxides. Hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Inhalation	May cause irritation of respiratory tract. Harmful by inhalation.
Eye contact	Irritating to eyes.
Skin contact	May cause sensitization by skin contact. May cause irritation.
Ingestion	Harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Acetochlor 34256-82-1	= 763 mg/kg (Rat)	= 3667 mg/kg (Rabbit)	-
Other ingredients	> 90 mL/kg (Rat)	-	-
Solvent naphtha, petroleum, heavy aromatic 64742-94-5	> 5000 mg/kg (Rat)	> 2 mL/kg (Rabbit)	> 590 mg/m ³ (Rat) 4 h
2-Methylnaphthalene 91-57-6	= 1630 mg/kg (Rat)	-	-
Naphthalene 91-20-3	= 1110 mg/kg (Rat)	= 1120 mg/kg (Rabbit)	> 340 mg/m ³ (Rat) 1 h
1-Methylnaphthalene 90-12-0	= 1840 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms May cause redness and tearing of the eyes. May cause skin irritation. Coughing and/ or wheezing. May cause an allergic skin reaction.

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

Sensitization May cause sensitization by skin contact.
Germ cell mutagenicity Based on available data, the classification criteria are not met.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Naphthalene 91-20-3	A3	Group 2B	Reasonably Anticipated	X

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program)

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity Based on available data, the classification criteria are not met.
STOT - single exposure Based on available data, the classification criteria are not met.
STOT - repeated exposure May cause disorder and damage to the. liver. kidney.
Chronic toxicity May cause adverse liver effects. May cause adverse effects on the bone marrow and blood-forming system.
Target Organ Effects blood, Central nervous system, Eyes, kidney, liver, Skin.
Aspiration hazard Based on available data, the classification criteria are not met.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 929.00 mg/kg
ATEmix (dermal) 3,923.00 mg/kg
ATEmix (inhalation-dust/mist) 1.30 mg/l

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Very toxic to aquatic life with long lasting effects

This product is toxic to fish. Drift or runoff from treated areas may be hazardous to aquatic organisms and non-target plants. 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 contaminate water when cleaning equipment or disposing of equipment washwaters.

16.1 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Solvent naphtha, petroleum, heavy aromatic 64742-94-5	2.5: 72 h Skeletonema costatum mg/L EC50	19: 96 h Pimephales promelas mg/L LC50 static 1740: 96 h Lepomis macrochirus mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 2.34: 96 h Oncorhynchus mykiss mg/L LC50 41: 96 h Pimephales promelas mg/L LC50	0.95: 48 h Daphnia magna mg/L EC50
Naphthalene 91-20-3	0.4: 72 h Skeletonema costatum mg/L EC50	1.6: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 1.99: 96 h Pimephales promelas mg/L LC50 static 0.91 - 2.82: 96 h Oncorhynchus mykiss mg/L LC50 static 5.74 - 6.44: 96 h Pimephales promelas mg/L LC50 flow-through 31.0265: 96 h Lepomis macrochirus mg/L LC50 static	1.09 - 3.4: 48 h Daphnia magna mg/L EC50 Static 1.96: 48 h Daphnia magna mg/L EC50 Flow through 2.16: 48 h Daphnia magna mg/L LC50

Persistence and degradability

Not readily biodegradable.

Bioaccumulation

Bioaccumulative potential.

Chemical Name	Partition coefficient
Solvent naphtha, petroleum, heavy aromatic 64742-94-5	6.1
2-Methylnaphthalene 91-57-6	3.86
Naphthalene 91-20-3	3.3

Other adverse effects

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Disposal of wastes**

Pesticide wastes may be acutely hazardous. Improper disposal is a violation of federal law. Disposal should be in accordance with applicable regional, national and local laws and regulations. Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance on proper disposal of waste product.

Contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations. Consult product label for additional information. Do not reuse container.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Naphthalene 91-20-3	U165	Included in waste streams: F024, F025, F034, F039, K001, K035, K060, K087, K145	-	U165

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Naphthalene 91-20-3	-	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	-

Chemical Name	California Hazardous Waste Status
Naphthalene 91-20-3	Toxic

14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated
<u>TDG</u>	Not regulated
<u>IATA</u>	
UN/ID no	UN3082
Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.
Hazard Class	9
Packing Group	III
ERG Code	9L
Special Provisions	A97, A158, A197
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Acetochlor), 9, III
<u>IMDG</u>	
UN/ID no	UN3082
Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.
Hazard Class	9
Packing Group	III
EmS-No	F-A, S-F
Special Provisions	274, 335
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Acetochlor), 9, III

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

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 Chemical Substances/European 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

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Naphthalene - 91-20-3	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Naphthalene 91-20-3	100 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Naphthalene 91-20-3	100 lb 1 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Acetochlor - 34256-82-1	Carcinogen
Furilazole - 121776-33-8	Carcinogen
Naphthalene - 91-20-3	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
2-Methylnaphthalene 91-57-6	X	-	-
1-Methylnaphthalene 90-12-0	X	X	X
Naphthalene 91-20-3	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number 83979-8

EPA Statement

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:

Difference between SDS and EPA Pesticide label

WARNING: Causes substantial but temporary eye and skin irritation. Harmful if swallowed or inhaled. May cause allergic skin reaction. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health hazards 2	Flammability 0	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 2*	Flammability 0	Physical hazards 0	Personal protection X
Chronic Hazard Star Legend	* = Chronic Health Hazard			

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Revision Note

No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet