

### SECTION 1: IDENTIFICATION

#### 1.1. Identification

**Product form:** Mixture  
**Trade name:** Thyme Guard

#### 1.2. Recommended used and restrictions on use:

**Use of the substance/mixture**  
 Natural Pesticide  
 Fungicide  
 Bactericide

#### 1.3. Supplier

AGRO RESEARCH INTERNATIONAL LLC  
 29203 Red Hibiscus Court  
 Sorrento, FL. 32776  
 Tel: +1 407 302 6116  
 Email: info@agroresearchinternational.com

#### 1.4. Emergency telephone number

**Emergency number:** +1 407 435 9105 (Monday - Friday: 9am – 5pm EST)

### SECTION 2: HAZARD(S) IDENTIFICATION

#### 2.1. Classification of the substance or mixture

GHS US Classification	
Flammable liquids Category 2	Highly flammable liquid and vapor
Skin corrosion/irritation Category 1B	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	Causes serious eye damage
Specific target organ toxicity (single exposure) Category 3	May cause drowsiness or dizziness

#### 2.2. GHS Label elements, including precautionary statements

GHS US labeling  
 Hazard pictograms (GHS US)



Signal word (GHS US)  
 Hazard statements (GHS US):

Danger  
 H225 - Highly flammable liquid and vapor  
 H314 - Causes severe skin burns and eye damage  
 H318 - Causes serious eye damage  
 H336 - May cause drowsiness or dizziness

Precautionary statements (GHS US)  
 P210 – Keep away from heat/sparks/open flames/hot surfaces. No smoking  
 P233 – Keep container tightly closed  
 P235 – Keep cool  
 P242 – Use only non-sparking tools  
 P243 - Take precautionary measures against static discharge  
 P260 – Do not breathe mist/vapours/spray  
 P264 – Wash hands thoroughly after handling  
 P271 – Use only outdoors or in a well-ventilated area  
 P280 – Wear protective gloves/protective clothing/eye protection  
 P301+P330+P331 – IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
 P303+P361+P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P304+P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a poison center or doctor.  
 P312 - Call a poison center or doctor if you feel unwell.  
 P363 - Wash contaminated clothing before reuse.  
 P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO<sub>2</sub>), Dry chemical, Water spray or fog to extinguish.  
 P403+P233 - Store in a well-ventilated place. Keep container tightly closed. Keep cool.  
 P405 - Store locked up.  
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product Identifier	%	GHS US classification
Thyme oil	(CAS-No.) 8007-46-3	≥ 20 - ≤ 40 %	Flam. Liq. 3, H226 ATO 5, H303 Skin Corr. 1B, H314
Isopropyl alcohol	(CAS-No.) 67-63-0	≥ 20 - ≤ 40 %	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H335
Soap (mixture)	(CAS-No.) N/A	≥ 20 - ≤ 40 %	N/A

## SECTION 4: FIRST-AID MEASURES

### 4.1. Description of first aid measures

First-aid measures general	Call a physician immediately.
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact	Remove/Take off immediately all contaminated clothing. Wash off immediately and plentifully with water for at least 20 minutes. Wash skin thoroughly with mild soap and water. Call a physician immediately.
First-aid measures after eye contact	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse thoroughly with plenty of water for at least 20 minutes and take medical advice. Call a physician immediately.
Symptoms/effects after ingestion	Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	May cause drowsiness or dizziness.
Symptoms/effects after skin contact	May cause mild burns.
Symptoms/effects after eye contact	There may be damage, irritation and redness.
Symptoms/effects after ingestion	Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media Water fog. Water spray. Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>).

Unsuitable extinguishing media Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Fire hazard Highly flammable liquid and vapor. Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors. On combustion, forms: carbon oxides (CO and CO<sub>2</sub>).

Explosion hazard No direct explosion hazard.

Hazardous decomposition products in case of fire Thermal decomposition can lead to the release of irritating gases and vapors.

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures Evacuate unnecessary personnel.

**6.1.1. For non-emergency personnel**

Protective equipment Wear personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe mist, spray, vapors. Avoid contact with skin and eyes.

**6.1.2. For emergency responders**

Protective equipment Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures Ventilate spillage area. Eliminate all ignition sources if safe to do so. Stop leak if safe to do so.

### 6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

For containment Soak up with inert absorbent material (for example sand, sawdust, a universal binder, silica gel).

Methods for cleaning up Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Notify authorities if product enters sewers or public waters.

Other information Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13: "Disposal considerations".

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Precautions for safe handling Provide good ventilation in process area to prevent formation of vapor. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Avoid contact with skin and eyes. Do not breathe mist, spray, vapors. Wear personal protective equipment. Use only non-sparking tools. Flammable vapors may accumulate in the container. Use only outdoors or in a well-ventilated area.

Hygiene measures

Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Always wash hands after handling the product. Wash contaminated clothing before reuse.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

Keep only in the original container in a cool well ventilated place. Keep container tightly closed. Store locked up.

Incompatible materials

Strong acids and oxidants.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Thyme Guard

No additional information available

#### Thyme oil (8007-46-3)

No additional information available

#### Isopropyl alcohol (67-63-0)

##### USA - ACGIH - Occupational Exposure Limits

Local name	2-Propanol
ACGIH TWA (ppm)	200 ppm
ACGIH STEL (ppm)	400 ppm
Remark (ACGIH)	TLV® Basis: Eye & URT irr; CNS impair. Notations: A4 (Not classifiable as a Human Carcinogen); BEI
ACGIH chemical category	Not Classifiable as a Human Carcinogen
Regulatory reference	ACGIH 2019

##### USA - ACGIH - Biological Exposure Indices

Local name	2-PROPANOL
Biological Exposure Indices (BEI)	40 mg/l Parameter: Acetone - Medium: urine - Sampling time: end of shift at end of workweek (background, nonspecific)
Regulatory reference	ACGIH 2019

##### USA - OSHA - Occupational Exposure Limits

Local name	Isopropyl alcohol
OSHA PEL (TWA) (mg/m <sup>3</sup> )	980 mg/m <sup>3</sup>
OSHA PEL (TWA) (ppm)	400 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

##### USA - IDLH - Occupational Exposure Limits

US IDLH (ppm)	2000 ppm (10% LEL)
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##### USA - NIOSH - Occupational Exposure Limits

NIOSH REL (TWA) (mg/m <sup>3</sup> )	980 mg/m <sup>3</sup>
NIOSH REL (TWA) (ppm)	400 ppm
NIOSH REL (STEL) (mg/m <sup>3</sup> )	1225 mg/m <sup>3</sup>
NIOSH REL (STEL) (ppm)	500 ppm

#### Soap

No additional information available

### 8.2. Appropriate engineering controls

Appropriate engineering controls

Ensure good ventilation of the work station.

Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.

### 8.3. Individual protection measures/Personal protective equipment

Hand protection:

Impermeable protective gloves

**Eye protection:**

Chemical goggles or safety glasses

**Skin and body protection:**

If skin contact or contamination of clothing is possible, protective clothing should be worn

**Respiratory protection:**

An approved organic vapor respirator/supplied air or self-contained breathing apparatus must be used when vapor concentration exceeds applicable exposure limits

**Other information:**

Do not eat, drink or smoke during use.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**9.1. Information on basic physical and chemical properties**

Physical state:	Liquid
Appearance:	Clear
Color (munsell system):	Pale yellow to brownish
Odor:	Characteristic of thyme
Odor threshold:	No data available
pH:	9.0 – 11.5
Melting point:	No data available
Freezing point:	No data available
Boiling point:	>181°F (83°C)
Flash point:	145°F (62.8°C)
Relative evaporation rate (butyl acetate=1):	< 1
Flammability (solid, gas):	No data available
Vapor pressure:	No data available
Relative vapor density at 20°C:	No data available
Relative density at 25°C (g/mL):	0.9 – 1.0
Solubility in water, fats, and organic solvents:	Complete
Partition coefficient n-octanol/water (log Pow):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, kinematic:	11.1 – 22.2 m <sup>2</sup> s <sup>-1</sup>
Viscosity, Dynamic:	10.0 – 20.0 cps at 25°C
Explosion limits:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available

**9.2. Other information**

No additional information available

### SECTION 10: STABILITY AND REACTIVITY

**10.1. Reactivity**

Highly flammable liquid and vapor

**10.2. Chemical stability**

Stable under normal conditions

**10.3. Possibility of hazardous reactions**

No dangerous reactions known under normal conditions of use.

**10.4. Conditions to avoid**

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

**10.5. Incompatible materials**

Strong acids and oxidants

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity (oral): Not classified (Based on available data, the classification criteria are not met)  
 Acute toxicity (dermal): Not classified (Based on available data, the classification criteria are not met)  
 Acute toxicity (inhalation): Not classified (Based on available data, the classification criteria are not met)

#### Thyme oil (8007-46-3)

LD50 dermal rabbit 5000 mg/kg  
 LD50 oral rat 2840 mg/kg  
 Skin contact Can induce irritations  
 Eye contact Serious eye damage/eye irritation  
 Germ cell mutagenicity Not classified (Based on available data, the classification criteria are not met)  
 Carcinogenicity Not classified (Based on available data, the classification criteria are not met)

#### Isopropyl alcohol (67-63-0)

LD50 oral rat 5840 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)  
 LD50 dermal rabbit 4059 mg/kg  
 LD50 inhalation rat (mg/l) 72600 mg/m<sup>3</sup> (Exposure time: 4 h)  
 Reproductive toxicity Not classified (Based on available data, the classification criteria are not met)  
 STOT-single exposure May cause drowsiness or dizziness.  
 STOT-repeated exposure Not classified (Based on available data, the classification criteria are not met)  
 Symptoms/effects after eye contact Serious damage to eyes.  
 Symptoms/effects after ingestion Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.  
 Other information Likely routes of exposure: ingestion, inhalation, skin and eye.

#### Soap

LD50 oral rat Not classified (Based on available data, the classification criteria are not met)  
 LD50 dermal rabbit Not classified (Based on available data, the classification criteria are not met)  
 Germ cell mutagenicity Not classified (Based on available data, the classification criteria are not met)

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Ecology - general This product contains hazardous components for the aquatic environment. This material has not been tested for environmental effects.

#### Thyme oil (8007-46-3)

LC50 Daphnia magna 3200 ug/L (Exposure time: 96 h)  
 LC50 Gammarus fasciatus 3200ug/L (Exposure time: 96 h)  
 LC50 Pimephales promelas 3200 ug/L (Exposure time: 96 h)

#### Isopropyl alcohol (67-63-0)

LC50 Pimephales promelas [flow-through] 9640 mg/l (Exposure time: 96 h)  
 EC50 Daphnia magna 13299 mg/l (Exposure time: 48 h)  
 EC50 waterflea 13299 mg/l  
 LC50 Pimephales promelas [static] 11130 mg/l (Exposure time: 96 h)  
 EC50 other aquatic organisms 2 > 1000 mg/l

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

#### Isopropyl alcohol (67-63-0)

Partition coefficient n-octanol/water (Log Pow) 0.05 (at 25 °C)

### 12.4. Mobility in soil

**No additional information available**

**12.5. Other adverse effects**

Other information

Do not allow uncontrolled discharge of product into the environment. Notify authorities if product enters sewers or public waters.

### SECTION 13: DISPOSAL CONSIDERATIONS

**13.1. Disposal methods**

Waste treatment methods

Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations

Dispose in a safe manner in accordance with local/national regulations.

Additional information

Flammable vapors may accumulate in the container.

Ecology - waste materials

Do not allow uncontrolled discharge of product into the environment. Notify authorities if product enters sewers or public waters.

### SECTION 14: TRANSPORT INFORMATION

**Department of Transportation (DOT)**

In accordance with DOT

Transport document description

UN2924 Flammable liquids, corrosive, n.o.s. (Isopropyl alcohol ; thyme oil), 3 (8), II

UN-No.(DOT)

UN2924

Proper Shipping Name (DOT)

Flammable liquids, corrosive, n.o.s.

Class (DOT)

Isopropyl alcohol ; thyme oil

Packing group (DOT)

3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Subsidiary risk (DOT)

II - Medium Danger

Hazard labels (DOT)

8 - Class 8 - Corrosive material 49 CFR 173.136

3 - Flammable liquid

8 - Corrosive



Other information

No supplementary information available.

**Transportation of Dangerous Goods**

Transport document description

UN2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Isopropyl alcohol ; thyme oil), 3 (8), II

UN-No. (TDG)

UN2924

Proper Shipping Name (Transportation of Dangerous Goods)

FLAMMABLE LIQUID, CORROSIVE, N.O.S.

TDG Primary Hazard Classes

3 - Class 3 - Flammable Liquids

Packing group

II - Medium Danger

TDG Subsidiary Classes

8

**Transport by sea**

Transport document description (IMDG)

UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Isopropyl alcohol ; thyme oil), 3 (8), II

UN-No. (IMDG)

2924

Proper Shipping Name (IMDG)

FLAMMABLE LIQUID, CORROSIVE, N.O.S.

Class (IMDG)

3 - Flammable liquids

Packing group (IMDG)

II - substances presenting medium danger

Subsidiary risks (IMDG)

8 - Corrosive substances

Limited quantities (IMDG)

1 L

**Air transport**

Transport document description (IATA)	UN 2924 Flammable liquid, corrosive, n.o.s. (Isopropyl alcohol ; thyme oil), 3 (8), II
UN-No. (IATA)	2924
Proper Shipping Name (IATA)	Flammable liquid, corrosive, n.o.s.
Class (IATA)	3 - Flammable Liquids
Packing group (IATA)	II - Medium Danger
Subsidiary hazards (IATA)	8 - Corrosive substances

### SECTION 15: REGULATORY INFORMATION

#### 15.1. US Federal regulations

##### Thyme oil (8007-46-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

##### Isopropyl alcohol (67-63-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Subject to reporting requirements of United States SARA Section 313

#### 15.2. International regulations

##### CANADA

##### Thyme oil (8007-46-3)

Listed on the Canadian DSL (Domestic Substances List)

##### Isopropyl alcohol (67-63-0)

Listed on the Canadian DSL (Domestic Substances List)

##### EU-Regulations

##### Thyme oil (8007-46-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

##### Isopropyl alcohol (67-63-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

#### 15.3. US State regulations

No additional information available

### SECTION 16: OTHER INFORMATION

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

Changes since the last version will be highlighted in the margin. This version replaces all previous versions

**END OF SAFETY DATA SHEET**