

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** MS0023 MOSQUITO SHIELD PIACTIVE LOTION – PCP# 33411

**Other means of identification**  
MS0023

### Recommended restrictions

**Product Use:** Pesticide  
**Restrictions on use:** Not known.

### Manufacturer/Importer/Distributor Information

#### Manufacturer

Company Name: KUUS INC.  
Address: 450 TAPSCOTT ROAD  
Toronto, ON M1B 1Y4  
Telephone: 416-298-7724  
Fax:

**Emergency telephone number:** 1-866-836-8855

## 2. Hazard(s) identification

### Hazard Classification

Not classified

### Label Elements

**Hazard Symbol:** No symbol  
**Signal Word:** No signal word.  
**Hazard Statement:** Not applicable  
**Precautionary Statements** Not applicable

**Other hazards which do not result in GHS classification:** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Icaridine		119515-38-7	10 - 30%
Ethanol		64-17-5	1 - 5%
1,2,3-Propanetriol		56-81-5	1 - 5%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

#### 4. First-aid measures

<b>Ingestion:</b>	Rinse mouth thoroughly.
<b>Inhalation:</b>	Move to fresh air.
<b>Skin Contact:</b>	Remove contaminated clothing and wash the skin thoroughly with soap and water after work.
<b>Eye contact:</b>	Rinse immediately with plenty of water.

#### Most important symptoms/effects, acute and delayed

<b>Symptoms:</b>	No data available.
<b>Hazards:</b>	No data available.

#### Indication of immediate medical attention and special treatment needed

<b>Treatment:</b>	No data available.
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#### 5. Fire-fighting measures

<b>General Fire Hazards:</b>	No unusual fire or explosion hazards noted.
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#### Suitable (and unsuitable) extinguishing media

<b>Suitable extinguishing media:</b>	Use fire-extinguishing media appropriate for surrounding materials.
<b>Unsuitable extinguishing media:</b>	Do not use water jet as an extinguisher, as this will spread the fire.

<b>Specific hazards arising from the chemical:</b>	During fire, gases hazardous to health may be formed.
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#### Special protective equipment and precautions for firefighters

<b>Special fire fighting procedures:</b>	No data available.
<b>Special protective equipment for fire-fighters:</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures:</b>	No data available.
<b>Methods and material for containment and cleaning up:</b>	Stop the flow of material, if this is without risk. Absorb with sand or other inert absorbent.
<b>Environmental Precautions:</b>	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages.

## 7. Handling and storage

**Precautions for safe handling:** Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities:** Store away from incompatible materials. Store in original tightly closed container.

## 8. Exposure controls/personal protection

### Control Parameters

#### Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Ethanol	TWA	1,000 ppm 1,880 mg/m <sup>3</sup>	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (10 2006)
Ethanol	15 MIN ACL	1,250 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
Ethanol	STEL	1,000 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
Ethanol	STEL	1,000 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Ethanol	STEL	1,000 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	8 HR ACL	1,000 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
Ethanol	TWA	1,000 ppm 1,880 mg/m <sup>3</sup>	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Ethanol	STEL	1,000 ppm	US. ACGIH Threshold Limit Values (2009)
1,2,3-Propanetriol - Mist.	TWA	10 mg/m <sup>3</sup>	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (10 2006)
1,2,3-Propanetriol - Mist.	TWA	10 mg/m <sup>3</sup>	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
1,2,3-Propanetriol - Respirable mist.	TWA	3 mg/m <sup>3</sup>	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
1,2,3-Propanetriol - Mist.	8 HR ACL	10 mg/m <sup>3</sup>	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
	15 MIN ACL	20 mg/m <sup>3</sup>	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)

1,2,3-Propanetriol - Mist.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Sodium hydroxide (Na(OH))	Ceiling	2 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
Sodium hydroxide (Na(OH))	CEILING	2 mg/m3	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
Sodium hydroxide (Na(OH))	CEILING	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Sodium hydroxide (Na(OH))	CEILING	2 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (10 2006)
Sodium hydroxide (Na(OH))	CEV	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (12 2007)
Sodium hydroxide (Na(OH))	CEILING	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Sodium hydroxide (Na(OH))	Ceiling	2 mg/m3	US. ACGIH Threshold Limit Values (2008)
2-Propanol, 2-methyl-	TWA	100 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
2-Propanol, 2-methyl-	TWA	100 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
2-Propanol, 2-methyl-	TWA	100 ppm 303 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (10 2006)
2-Propanol, 2-methyl-	8 HR ACL	100 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
	15 MIN ACL	125 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
2-Propanol, 2-methyl-	TWA	100 ppm 303 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
2-Propanol, 2-methyl-	TWA	100 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
2-Propanol, 2-methyl-	TWA	100 ppm	US. ACGIH Threshold Limit Values (2008)
Cyclohexane	TWA	100 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Cyclohexane	TWA	300 ppm 1,030 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Cyclohexane	TWA	100 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (12 2007)
Cyclohexane	8 HR ACL	100 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
Cyclohexane	TWA	100 ppm 344 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
Cyclohexane	TWA	100 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
	15 MIN ACL	150 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
Cyclohexane	TWA	100 ppm	US. ACGIH Threshold Limit Values (2008)
Acetic acid ethyl ester	TWA	400 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Acetic acid ethyl ester	8 HR ACL	400 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
Acetic acid ethyl ester	TWA	150 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Acetic acid ethyl ester	TWA	400 ppm 1,440 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (10 2006)
Acetic acid ethyl ester	TWA	400 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
	15 MIN ACL	500 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

			(05 2009)
Acetic acid ethyl ester	TWA	400 ppm 1,440 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Acetic acid ethyl ester	TWA	400 ppm	US. ACGIH Threshold Limit Values (2008)
2-Propenoic acid	TWA	2 ppm 5.9 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (10 2006)
2-Propenoic acid	TWA	2 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
2-Propenoic acid	TWA	2 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (12 2007)
2-Propenoic acid	TWA	2 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
2-Propenoic acid	15 MIN ACL	4 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
	8 HR ACL	2 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
2-Propenoic acid	TWA	2 ppm 5.9 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
2-Propenoic acid	TWA	2 ppm	US. ACGIH Threshold Limit Values (2008)

**Appropriate Engineering Controls** No data available.

#### Individual protection measures, such as personal protective equipment

**General information:** Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Eye/face protection:** Wear goggles/face shield.

#### Skin Protection

**Hand Protection:** No data available.

**Other:** No data available.

**Respiratory Protection:** In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

**Hygiene measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

### 9. Physical and chemical properties

#### Appearance

**Physical state:** liquid

**Form:** liquid

**Color:** No data available.

**Odor:** No data available.

**Odor threshold:** No data available.

**pH:** No data available.

**Melting point/freezing point:** No data available.

**Initial boiling point and boiling range:** No data available.

**Flash Point:** No data available.

**Evaporation rate:** No data available.

<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	No data available.
<b>Flammability limit - lower (%):</b>	No data available.
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	No data available.
<b>Vapor density:</b>	No data available.
<b>Density:</b>	No data available.
<b>Relative density:</b>	No data available.
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	No data available.
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

## 10. Stability and reactivity

<b>Reactivity:</b>	No data available.
<b>Chemical Stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	No data available.
<b>Conditions to avoid:</b>	Avoid heat or contamination.
<b>Incompatible Materials:</b>	No data available.
<b>Hazardous Decomposition Products:</b>	No data available.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation:</b>	No data available.
<b>Skin Contact:</b>	No data available.
<b>Eye contact:</b>	No data available.
<b>Ingestion:</b>	No data available.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Inhalation:</b>	No data available.
<b>Skin Contact:</b>	No data available.
<b>Eye contact:</b>	No data available.

**Ingestion:** No data available.

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

##### Oral

**Product:** Not classified for acute toxicity based on available data.

**Specified substance(s):**

Ethanol LD 50 (Rat): 10,470 mg/kg

1,2,3-Propanetriol LD 50 (Rat): 27,200 mg/kg

##### Dermal

**Product:** Not classified for acute toxicity based on available data.

**Specified substance(s):**

Ethanol LD 50 (Rabbit): 17,100 mg/kg

1,2,3-Propanetriol LD 50: > 2,000 mg/kg

##### Inhalation

**Product:** Not classified for acute toxicity based on available data.

**Specified substance(s):**

Ethanol LC 50 (Rat): 124.7 mg/l  
LC 50: > 5 mg/l

1,2,3-Propanetriol LC 50: > 20 mg/l  
LC 50: > 5 mg/l

#### Repeated dose toxicity

**Product:** No data available.

**Specified substance(s):**

Ethanol NOAEL (Rat(Male), Oral, 7 - 14 Weeks): 10 %(m) Oral Experimental result, Key study

1,2,3-Propanetriol NOAEL (Rat(Female, Male), Oral, 90 d): 50,000 ppm(m) Oral Experimental result, Key study

#### Skin Corrosion/Irritation

**Product:** No data available.

**Specified substance(s):**

Ethanol in vivo (Rabbit): Not irritant Experimental result, Key study

#### Serious Eye Damage/Eye Irritation

**Product:** No data available.

**Specified substance(s):**

Ethanol Rabbit, 1 - 24 hrs: Not irritating  
1,2,3-Propanetriol Rabbit, 24 hrs: Not irritating

**Respiratory or Skin Sensitization**

**Product:** No data available.

**Specified substance(s):**

Ethanol Skin sensitization:, in vivo (Guinea pig): Non sensitising

**Carcinogenicity**

**Product:** No data available.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

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

No carcinogenic components identified **ACGIH Carcinogen List:**

No carcinogenic components identified

**Germ Cell Mutagenicity**

**In vitro**

**Product:** No data available.

**In vivo**

**Product:** No data available.

**Reproductive toxicity**

**Product:** No data available.

**Specific Target Organ Toxicity - Single Exposure**

**Product:** No data available.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** No data available.

**Aspiration Hazard**

**Product:** No data available.

**Other effects:** No data available.

**12. Ecological information**

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Specified substance(s):**

Ethanol LC 50 (Pimephales promelas, 96 h): 15.3 g/l Experimental result, Key study



1,2,3-Propanetriol LC 50 (Oncorhynchus mykiss, 96 h): 54,000 mg/l Experimental result, Key study

**Aquatic Invertebrates**

**Product:** No data available.

**Specified substance(s):**

Ethanol LC 50 (Ceriodaphnia dubia, 48 h): 5,012 mg/l Experimental result, Key study

1,2,3-Propanetriol LC 50 (Daphnia magna, 48 h): 1,955 mg/l Experimental result, Supporting study

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Specified substance(s):**

Ethanol NOAEL (Oryzias latipes): 7,900 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study

**Aquatic Invertebrates**

**Product:** No data available.

**Specified substance(s):**

Ethanol LC 50 (Daphnia magna): 454 mg/l Experimental result, Key study  
NOAEL (Daphnia magna): 9.6 mg/l Experimental result, Key study

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and Degradability**

**Biodegradation**

**Product:** No data available.

**Specified substance(s):**

Ethanol 95 % Detected in water. Experimental result, Key study

1,2,3-Propanetriol 86 % Detected in water. Experimental result, Key study

**BOD/COD Ratio**

**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration Factor (BCF)**

**Product:** No data available.

**Specified substance(s):**

Ethanol Cyprinus carpio, Bioconcentration Factor (BCF): 4.5 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Supporting study

**Partition Coefficient n-octanol / water (log Kow)**

**Product:** No data available.

**Mobility in soil:** No data available.

**Known or predicted distribution to environmental compartments**

Icaridine	No data available.
Ethanol	No data available.
1,2,3-Propanetriol	No data available.

**Other adverse effects:** No data available.

**13. Disposal considerations**

**Disposal instructions:** Wash before disposal. Dispose to controlled facilities.

**Contaminated Packaging:** No data available.

**14. Transport information****TDG**

Not regulated.

**IMDG**

Not regulated.

**IATA**

Not regulated.

**15. Regulatory information****Canada Federal Regulations****List of Toxic Substances (CEPA, Schedule 1)**

Not Regulated

**Export Control List (CEPA 1999, Schedule 3)**

Not Regulated

**National Pollutant Release Inventory (NPRI)****Canada. National Pollutant Release Inventory (NPRI) Substances, Part 5, VOCs with Additional Reporting Requirements**

NPRI PT5	EthanolAcetic acid ethyl ester
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**Canada. National Pollutant Release Inventory (NPRI) (Schedule 1, Parts 1-4)**

NPRI	Not Regulated
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**Greenhouse Gases**

Not Regulated

**Controlled Drugs and Substances Act**

CA CDSI	Not Regulated
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CA CDSII	Not Regulated
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CA CDSIII	Not Regulated
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CA CDSIV	Not Regulated
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CA CDSV	Not Regulated
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CA CDSVII	Not Regulated
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CA CDSVIII	Not Regulated
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**Precursor Control Regulations**

Not Regulated

## International regulations

### Montreal protocol

Not applicable

### Stockholm convention

Not applicable

### Rotterdam convention

Not applicable

### Kyoto protocol

Not applicable

## Inventory Status:

Australia AICS:	Not in compliance with the inventory.
Canada DSL Inventory List:	Not in compliance with the inventory.
Canada NDSL Inventory:	Not in compliance with the inventory.
Ontario Inventory:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	Not in compliance with the inventory.
Mexico INSQ:	Not in compliance with the inventory.
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Philippines PICCS:	Not in compliance with the inventory.
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory
US TSCA Inventory:	Not in compliance with the inventory.
EINECS, ELINCS or NLP:	Not in compliance with the inventory.

## 16. Other information, including date of preparation or last revision

<b>Issue Date:</b>	12/20/2019
<b>Revision Date:</b>	No data available.
<b>Version #:</b>	1.0
<b>Further Information:</b>	No data available.

**Disclaimer:**

The information provided in this 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. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.