SAFETY DATA SHEET

1. Identification

Product identifier: MARVELOUS MANGO METERED AIR FRESHENER

Other means of identification
SDS number: RE1000004784

Recommended restrictions
Product Use: Air Freshener
Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name:	Sprayway, Inc.
Address:	1000 INTEGRAM DR Pacific,MO 63069
Telephone:	630-628-3000
Fax:	

Emergency telephone number: 1-866-836-8855

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable aerosol	Category 1

Health Hazards

Serious Eye Damage/Eye Irritation	Category 2A
Skin sensitizer	Category 1
Specific Target Organ Toxicity - Single Exposure	Category 3[1.]

Target Organs
1. Narcotic effect.

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Label Elements

Hazard Symbol:

Signal Word:	Danger
Hazard Statement:	Extremely flammable aerosol. Causes serious eye irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. Harmful to aquatic life.
Precautionary Statements	
Prevention:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in a well-ventilated area. Avoid release to the environment.
Response:	IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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 water/… If skin irritation or rash occurs: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see on this label). Wash contaminated clothing before reuse.
Storage:	Protect from sunlight. Do not expose to temperatures exceeding 50 oC/122oF. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Hazard(s) not otherwise classified (HNOC):	None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
2-Propanone	67-64-1	50 - <100%
Propane	74-98-6	10 - <20%
Butane	106-97-8	10 - <20%
Oils, orange, sweet	8008-57-9	1 - <5%
Terpenes and Terpenoids, sweet orange-oil	68647-72-3	0.1 - <1%
Oils, orange, sweet, terpene-free	68606-94-0	0.1 - <1%
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	1222-05-5	0.1 - <1%
Ethanol, 2,2',2''-nitrilotris-	102-71-6	0 - <0.1%
Ethanol, 2,2'-iminobis-	111-42-2	0 - <0.1%

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

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling: Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Avoid contact with eyes, skin, and clothing.

Conditions for safe storage, including any incompatibilities: Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Aerosol Level 3

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
2-Propanone	STEL	1,000 ppm 2,400 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	750 ppm 1,780 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)

	PEL	1,000 ppm 2,400 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	AN ESL	2,000 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	TWA	250 ppm	US. ACGIH Threshold Limit Values (03 2015)
	TWA	750 ppm 1,800 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	Ceiling	3,000 ppm	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	STEL	500 ppm	US. ACGIH Threshold Limit Values (03 2015)
	TWA PEL	500 ppm 1,200 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	ST ESL	7,800 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	AN ESL	4,800 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	TWA	750 ppm 1,800 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	ST ESL	3,300 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	REL	250 ppm 590 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	STEL	1,000 ppm 2,400 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
Propane	REL	1,000 ppm 1,800 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	1,000 ppm 1,800 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA PEL	1,000 ppm 1,800 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	TWA	1,000 ppm 1,800 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	TWA	1,000 ppm 1,800 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Butane	REL	800 ppm 1,900 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	800 ppm 1,900 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	STEL	1,000 ppm	US. ACGIH Threshold Limit Values (03 2018)
	TWA	800 ppm 1,900 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	AN ESL	3,000 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	AN ESL	7,100 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	TWA PEL	800 ppm 1,900 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	ST ESL	66,000 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL	28,000 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Ethanol, 2,2',2"-nitrilotris-	TWA PEL	5 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	ST ESL	50 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)

	TWA		5 mg/m3	US. ACGIH Threshold Limit Values (2008)
	AN ESL		5 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Ethanol, 2,2'-iminobis- - Inhalable fraction and vapor.	TWA		1 mg/m3	US. ACGIH Threshold Limit Values (2009)
Ethanol, 2,2'-iminobis-	REL	3 ppm	15 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	3 ppm	15 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	3 ppm	15 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	TWA PEL	0.46 ppm	2 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	AN ESL		7 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL		97 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
2-Propanone (acetone: Sampling time: End of shift.)	25 mg/l (Urine)	ACGIH BEL (03 2015)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: No data available.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

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

Hygiene measures: Avoid contact with eyes. Observe good industrial hygiene practices. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance	
Physical state:	liquid
Form:	Spray Aerosol
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:	-104.44 °C
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	3,102.6408 - 4,481.5922 hPa (20 °C)
Vapor density:	No data available.
Density:	No data available.
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

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

11. Toxicological information

Information on likely routes of exposure

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: 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):

2-Propanone	LD 50 (Rat): 5,800 mg/kg
Oils, orange, sweet	LD 50: > 2,000 mg/kg
Terpenes and Terpenoids, sweet orange-oil	LD 50: > 2,000 mg/kg
Oils, orange, sweet, terpene-free	LD 50: > 2,000 mg/kg
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	LD 50 (Rat): > 4,640 mg/kg
Ethanol, 2,2',2''-nitrilotris-	LD 50 (Rat): 6,400 mg/kg
Ethanol, 2,2'-iminobis-	LD 50 (Rat): 1,100 mg/kg LD 50 (Rat): 1,600 mg/kg LD 50 (Rat): 2,500 mg/kg LD 50 (Rat): 1,820 mg/kg

Dermal

Product:	Not classified for acute toxicity based on available data.
Specified substance(s):	
2-Propanone	LD 50 (Rabbit): > 7,426 mg/kg
Oils, orange, sweet	LD 50: > 2,000 mg/kg
Terpenes and Terpenoids, sweet orange-oil	LD 50: > 2,000 mg/kg
Oils, orange, sweet, terpene-free	LD 50: > 2,000 mg/kg
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	LD 50 (Rat): > 10,000 mg/kg
Ethanol, 2,2',2''-nitrilotris-	LD 50 (Rabbit): > 2,000 mg/kg
Ethanol, 2,2'-iminobis-	LD 50: > 2,000 mg/kg

Inhalation

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

Specified substance(s):

2-Propanone	LC 50 (Rat): 50.1 mg/l
Propane	LC 50 (Mouse): 1,237 mg/l
Butane	LC 50 (Mouse): 1,237 mg/l
Oils, orange, sweet	LC 50: > 5 mg/l LC 50: > 20 mg/l
Terpenes and Terpenoids, sweet orange-oil	LC 50: > 5 mg/l LC 50: > 20 mg/l
Oils, orange, sweet, terpene-free	LC 50: > 5 mg/l LC 50: > 20 mg/l
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	LC 50: > 20 mg/l
Ethanol, 2,2',2''-nitrilotris-	LC 0 (Rat): 1.8 mg/m3 LC 50: > 5 mg/l
Ethanol, 2,2'-iminobis-	LC 0 (Rat): 0.2 mg/l LC 0 (Rat): 3.35 mg/l

Repeated dose toxicity

Product: No data available.

Specified substance(s):

2-Propanone	NOAEL (Rat(Male), Oral, 13 Weeks): 10,000 ppm(m) Oral Experimental result, Key study
Propane	NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study
Butane	NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	NOAEL (Rat(Female, Male), Oral, 13 Weeks): 150 mg/kg Oral Experimental result, Key study
Ethanol, 2,2',2''-nitrilotris-	NOAEL (Rat(Female, Male), Oral, 91 d): 1,000 mg/kg Oral Experimental result, Key study NOAEL (Rat(Female, Male), Inhalation): 0.5 mg/l Inhalation Experimental

	result, Key study NOAEL (Rat(Male), Dermal, 90 d): 125 mg/kg Dermal Experimental result, Key study NOAEL (Rat(Female), Dermal, 90 d): 250 mg/kg Dermal Experimental result, Key study
Ethanol, 2,2'-iminobis-	LOAEL (Rat(Female), Oral, 13 Weeks): 160 ppm(m) Oral Experimental result, Key study LOAEL (Rat(Male), Oral, 13 Weeks): 25 mg/kg Oral Experimental result, Key study NOAEL (Rat(Female, Male), Inhalation): 0.2 mg/l Inhalation Experimental result, Supporting study LOAEL (Rat(Female, Male), Inhalation): 15 mg/m3 Inhalation Experimental result, Key study LOAEL (Rat(Female), Oral, 13 Weeks): 14 mg/kg Oral Experimental result, Key study

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

2-Propanone	in vivo (Rabbit): Not irritant Experimental result, Supporting study
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	in vivo (Rabbit): Irritating Experimental result, Key study
Ethanol, 2,2',2''-nitrilotris-	in vivo (Rabbit): Not irritant Experimental result, Key study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

2-Propanone	Irritating. Rabbit, 24 hrs: Minimum grade of severe eye irritant

Respiratory or Skin Sensitization

Product: No data available.

Specified substance(s):

2-Propanone	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Ethanol, 2,2',2''-nitrilotris-	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Ethanol, 2,2'-iminobis-	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

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
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.
Specified substance(s):

2-Propanone	Inhalation - vapor: Narcotic effect. - Category 3 with narcotic effects.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.
Specified substance(s):

Ethanol, 2,2'-iminobis-	Category 2

Target Organs
Specific Target Organ Toxicity - Single Exposure: Narcotic effect.

Aspiration Hazard
Product: No data available.

Specified substance(s):

Oils, orange, sweet	May be fatal if swallowed and enters airways.
Terpenes and Terpenoids, sweet orange-oil	May be fatal if swallowed and enters airways.
Oils, orange, sweet, terpene-free	May be fatal if swallowed and enters airways.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product:	No data available.

Specified substance(s):

2-Propanone	LC 50 (Oncorhynchus mykiss, 96 h): 5,540 mg/l Experimental result, Key study
Propane	LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
Butane	LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
Oils, orange, sweet	LC 50 (96 h): < 1 mg/l
Terpenes and Terpenoids, sweet orange-oil	LC 50 (96 h): < 10 mg/l
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	LC 50 (Lepomis macrochirus, 96 h): 1.36 mg/l Experimental result, Key study
Ethanol, 2,2',2''-nitrilotris-	LC 50 (Pimephales promelas, 96 h): 11,800 mg/l Experimental result, Key study
Ethanol, 2,2'-iminobis-	LC 50 (Western mosquitofish (Gambusia affinis), 6 d): 560 mg/l Mortality LC 50 (Western mosquitofish (Gambusia affinis), 24 h): 1,800 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 2,100 mg/l Mortality LC 50 (Goldfish (Carassius auratus), 24 h): 800 mg/l Mortality LC 50 (Goldfish (Carassius auratus), 24 h): > 5,000 mg/l Mortality

Aquatic Invertebrates

Product:	No data available.

Specified substance(s):

2-Propanone	LC 50 (Daphnia pulex, 48 h): 8,800 mg/l Experimental result, Key study
Butane	LC 50 (Daphnia sp., 48 h): 69.43 mg/l QSAR QSAR, Key study
Oils, orange, sweet, terpene-free	EC 50 (48 h): < 100 mg/l
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	EC 50 (Daphnia magna, 48 h): 0.885 mg/l Experimental result, Not specified
Ethanol, 2,2',2''-nitrilotris-	EC 50 (Ceriodaphnia dubia, 48 h): 609.88 mg/l Experimental result, Key study
Ethanol, 2,2'-iminobis-	EC 50 (Water flea (Ceriodaphnia dubia), 48 h): 61.8 - 86.04 mg/l Intoxication

LC 50 (Water flea (Daphnia magna), 24 h): 140 - 180 mg/l Mortality
LC 50 (Water flea (Daphnia magna), 24 h): 170 mg/l Mortality
LC 50 (Water flea (Daphnia magna), 24 h): 154 - 196 mg/l Mortality
LC 50 (Water flea (Daphnia magna), 24 h): 180 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	LC 50 (Lepomis macrochirus): 0.452 mg/l Experimental result, Key study LOAEL (Pimephales promelas): 0.14 mg/l Experimental result, Key study
Ethanol, 2,2'-iminobis-	NOAEL (Various): > 1 mg/l Estimated by calculation, Supporting study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

2-Propanone	LOAEL (Daphnia magna): 2,212 mg/l Experimental result, Key study NOAEL (Daphnia magna): 2,212 mg/l Experimental result, Key study
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	NOAEL (Daphnia magna): 111 µg/l Experimental result, Key study EC 50 (Daphnia magna): 282 µg/l Experimental result, Key study
Ethanol, 2,2',2''-nitrilotris-	NOAEL (Daphnia magna): 16 mg/l Experimental result, Key study NOAEL (Daphnia magna): 125 mg/l Experimental result, Key study NOAEL (Daphnia magna): 250 mg/l Experimental result, Key study
Ethanol, 2,2'-iminobis-	LC 0 (Daphnia magna): 3.13 mg/l Experimental result, Key study LOAEL (Daphnia magna): 1.56 mg/l Experimental result, Key study NOAEL (Daphnia magna): 0.78 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):

2-Propanone	90.9 % (28 d) Detected in water. Experimental result, Key study
Propane	100 % (385.5 h) Detected in water. Experimental result, Key study 50 % (3.19 d) Detected in water. QSAR, Weight of Evidence study
Butane	100 % (385.5 h) Detected in water. Experimental result, Key study 50 % (3.19 d) Detected in water. QSAR, Weight of Evidence study
Oils, orange, sweet	< 70 % (10 d, Assessment)

Terpenes and Terpenoids, sweet orange-oil	< 70 %
Oils, orange, sweet, terpene-free	Expected to be inherently biodegradable.
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	60 % (28 d) Sediment Experimental result, Key study
Ethanol, 2,2',2''-nitrilotris-	100 % (3 d) Sediment Experimental result, Key study
Ethanol, 2,2'-iminobis-	96 % (10 d) Detected in water. Experimental result, Supporting study 96 % (10 d) Detected in water. Experimental result, Supporting study 93 % (28 d) Detected in water. Experimental result, Supporting study 97 % (28 d) Detected in water. Experimental result, Supporting study 93 % (28 d) 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):

2-Propanone	Haddock, adult, Bioconcentration Factor (BCF): 0.69 Aquatic sediment Experimental result, Not specified
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	Lepomis macrochirus, Bioconcentration Factor (BCF): 1,550 Aquatic sediment Experimental result, Key study
Ethanol, 2,2',2''-nitrilotris-	Cyprinus carpio, Bioconcentration Factor (BCF): < 3.9 Aquatic sediment Experimental result, Key study
Ethanol, 2,2'-iminobis-	Various, Bioconcentration Factor (BCF): 0.65 Aquatic sediment QSAR, Weight of Evidence study Various, Bioconcentration Factor (BCF): 0.23 Aquatic sediment QSAR, Weight of Evidence study Various, Bioconcentration Factor (BCF): 1.34 Aquatic sediment QSAR, Weight of Evidence study Various, Bioconcentration Factor (BCF): 1.65 Aquatic sediment QSAR, Weight of Evidence study Bioconcentration Factor (BCF): 3 Aquatic sediment Estimated by calculation, Weight of Evidence study

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Ethanol, 2,2',2''-nitrilotris-	Log Kow: -1.75 - -1.32 No Estimated by calculation, Weight of Evidence study

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

2-Propanone	No data available.
Propane	No data available.
Butane	No data available.
Oils, orange, sweet	No data available.
Terpenes and Terpenoids, sweet orange-oil	No data available.
Oils, orange, sweet, terpene-free	No data available.
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	No data available.
Ethanol, 2,2',2''-nitrilotris-	No data available.
Ethanol, 2,2'-iminobis-	No data available.

Other adverse effects: Harmful to aquatic organisms.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: No data available.

14. Transport information

DOT

UN Number:	UN 1950
UN Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es)	
Class:	2.1
Label(s):	–
Packing Group:	II
Marine Pollutant:	No
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

IMDG

UN Number:	UN 1950
UN Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es)	
Class:	2
Label(s):	–
EmS No.:	
Packing Group:	–
Environmental Hazards:	No
Marine Pollutant	No

Special precautions for user: Not regulated.

IATA

UN Number: UN 1950
Proper Shipping Name: Aerosols, flammable
Transport Hazard Class(es):
Class: 2.1
Label(s): –
Packing Group: –

Environmental Hazards: No
Marine Pollutant No

Special precautions for user: Not regulated.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
2-Propanone	lbs. 5000
Propane	lbs. 100
Butane	lbs. 100
Ethanol, 2,2'-iminobis-	lbs. 100

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Immediate (Acute) Health Hazards
Flammable aerosol
Serious Eye Damage/Eye Irritation
Skin sensitizer
Specific Target Organ Toxicity - Single Exposure

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
2-Propanone		

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
2-Propanone	lbs. 5000
Propane	lbs. 100
Butane	lbs. 100
Ethanol, 2,2'-iminobis-	lbs. 100

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
2-Propanone	10000 lbs
Propane	10000 lbs
Butane	10000 lbs
Oils, orange, sweet	10000 lbs
Terpenes and Terpenoids, sweet orange-oil	10000 lbs
Oils, orange, sweet, terpene-free	10000 lbs
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	10000 lbs
Ethanol, 2,2',2''-nitrilotris-	10000 lbs
Ethanol, 2,2'-iminobis-	10000 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Ethanol, 2,2'-iminobis-	Carcinogenic. 07 2012

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
2-Propanone
Propane
Butane

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
2-Propanone
Propane
Butane

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

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

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

Issue Date:	04/15/2019
Revision Information:	No data available.
Version #:	1.0
Further Information:	No data available.

Disclaimer: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.