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Version 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier**Product Name** Defender**Other means of identification****Product Code** 5185**Recommended use of the chemical and restrictions on use****Recommended use** Disinfectant**Uses Advised Against** For industrial and institutional use only.**Details of the supplier of the safety data sheet****Company Name** Blue Cardinal Chemical, LLC
3670 Scarlet Oak Blvd.
St. Louis, MO 63122
800-325-3312**Emergency telephone number****Emergency Telephone** CHEMTEL 1-800-255-3924

2. HAZARDS IDENTIFICATION

Classification

Flammable Aerosol	Category 2
Gases Under Pressure	Liquefied Gas
Eye Irritant	Category 2A
Specific Target Organ Toxicity (Single Exposure)	Category 3

Label elements

Emergency Overview

WARNING

Hazard statements

Flammable aerosol. Contains gas under pressure; may explode if heated. May cause respiratory irritation, drowsiness or dizziness. Causes serious eye irritation.

**Appearance:** Clear, colorless spray**Physical state:** Liquefied Gas**Odor:** Citrus-Orange and alcohol

Precautionary Statements - Prevention

Keep away from heat, sparks, open flames, and hot surfaces. -No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Wash hands thoroughly after handling. Wear eye protection.

Precautionary Statements - Response

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 attention. Avoid breathing fume, gas, vapors, spray. Use only outdoors or in a well-ventilated area. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

Precautionary Statements - Storage

Store in a well-ventilated place.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, state and federal law.

Hazards not otherwise classified (HNOC)**Other Information**

• N/A

Unknown Acute Toxicity

N/A

3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NO.	WEIGHT - %	TRADE SECRET
Ethyl alcohol	64-17-5	40-70%	*
n-Butane	106-97-8	10-20%	*
Propane	74-98-6	1-5%	*
2-Phenylphenol	90-43-7	0.1-0.5%	*

***The exact percentage (concentration) of composition has been withheld as a trade secret.**

4. FIRST AID MEASURES**First aid measures****Skin Contact**

Wash thoroughly with soap and water. Seek medical attention if irritation develops.

Eye Contact

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 or attention.

Inhalation

Move to fresh air. If breathing is difficult, administer oxygen. If not breathing administer artificial respiration or at any sign of loss of consciousness seek immediate medical attention.

Ingestion

If swallowed: Rinse mouth. Do NOT induce vomiting. Get medical advice or attention.

Most important symptoms and effect, both acute and delayed**Symptoms**

ACUTE HEALTH HAZARDS: Eye exposure causes transient pain and irritation
CHRONIC HEALTH HAZARDS: None known.

Indication of any immediate medical attention and special treatment needed**Note to physicians**

There is no specific treatment regimen. Treatment of overexposure should be directed toward the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

Carbon dioxide, standard chemical fire extinguisher, and water fog.

Unsuitable extinguishing media: N/A

Unusual fire and explosion hazards

Keep away from sparks, open flames, and hot surfaces. No smoking. Do not spray on an open flame or other ignition source.

Hazardous combustion products

None known.

Special fire fighting procedures

Wear NIOSH approved Self Contained Breathing Apparatus with a full face piece operated in a positive pressure demand mode with full body protective clothing when fighting fires. Avoid contact with skin and breathing smoke, fumes and decomposition products. Cool fire exposed containers with water fog to prevent bursting.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal precautions**

Refer to section 8 for proper Personal Protective Equipment.

Methods and material for containment and cleaning up**Methods for containment & cleaning up**

Eliminate all sources of ignition. Absorb with non-combustible material like vermiculite, sand or earth and rinse with small amount of soapy water. Do not allow to drain into sewers or storm drains. Dispose of in accordance with local, state and federal regulations. Do not puncture or incinerate! If empty: Place in trash or offer for recycling if available. If partly filled: Call your local solid waste agency or 1-800-CLEANUP for disposal instructions.

RCRA status

Product should be fully characterized prior to disposal (40 CFR 261).

7. HANDLING AND STORAGE**Precautions for safe handling****Advice on Safe Handling**

Avoid contact with skin, eyes and clothing. Do not contaminate other materials (including foods/drinks/feeds/water) during transport, use, storage, and disposal. Keep out of the reach of children. Read and follow the directions on the product label. They are the best guide to using the product in the most effective manner. The label also gives you the necessary safety precautions to protect your health.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Store in a cool, dry area. Do not use or store with strong oxidizers. Protect from sunlight. Store in a well ventilated area. Do not expose to temperatures exceeding 50 °C/122 °F. Pressurized container: Do not pierce or burn, even after use.

Incompatible Materials

Strong alkalis, oxidizers, bases, reactive metals, and natural rubber.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

CHEMICAL NAME	OSHA PEL	ACGIH TLV
Ethyl alcohol	1000 ppm	1000 ppm
n-Butane	Not Established	1000 ppm
Propane	1000 ppm	1000 ppm
2-Phenylphenol	Not Established	Not Established

Appropriate engineering controls**Engineering Controls**

General ventilation and local exhaust should be adequate.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Safety glasses/goggles.

Respiratory protection

Wear NIOSH/MSHA approved respiratory protection if used in confined, poorly ventilated areas.

Additional Measures

Wash hands and clothing in contact with product after use.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical State	Liquefied Gas
Appearance	Clear, colorless spray
Color	Clear, colorless
Odor	Citrus-Orange and alcohol scent
Odor Threshold	N/D

Property**Values**

pH	6.9-7.7
Melting Point/Freezing Point	N/D
Initial Boiling Point And Boiling Range	> 170 °F (77 °C)
Flash Point	110 °F (43 °C)
Evaporation Rate	1
Flammability (Solid/Gas)	Flammable Aerosol
Upper/Lower Flammability Or Explosive Limits	
Lower Flammability Limit	N/D
Upper Flammability Limit	N/D
Explosive Limit Lower(%)	N/D
Explosive Limit Upper(%)	N/D
Vapor Pressure (mm Hg)	44 @ 77°F (25°C)
Vapor Density (AIR=1)	> 1 @ 77 °f (25 °C)
Relative Density (H2O=1)	0.86 - 0.89@ 77 °f {25 °C}
Solubility (IES)	100% water.
Partition Coefficient	n-OCTANOL/WATER (Kow): N/D
Autoignition Temperature	N/D
Decomposition Temperature	N/D
Viscosity	N/D

10. STABILITY AND REACTIVITY**Reactivity**

None known.

Chemical Stability

Stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Temperatures greater than 122 °f may cause bursting. Avoid incompatibles.

Incompatible Materials

Strong alkalis, oxidizers, bases, reactive metals, and natural rubber.

Hazardous Decomposition Products

Oxides of carbon.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure** Eyes, Ingestion, Inhalation, Skin**Product Information**

Skin Contact	Causes irritation with prolonged contact.
Eye Contact	Causes severe irritation, redness, tearing.
Inhalation	Acute exposure may cause nausea, vomiting, coughing and pulmonary irritation.
Ingestion	Causes gastrointestinal irritation, nausea, vomiting.

CHEMICAL NAME	ORAL LD50	DERMAL LD50	INHALATION LC50
Ethyl alcohol (64-17-5)	(Oral, Rat) > 8311 mg/kg	(Dermal, Rabbit) 16972.5 mg/kg	(Inhalation, Rat, 4h) 133.6 mg/L
n-Butane (106-97-8)			(Inhalation, Rat, 4h) 30957 mg/m ³
Propane (74-98-6)			(Inhalation, Rat, 4h) 658 mg/L
2-Phenylphenol (90-43-7)	(Oral, Rat) 2700 mg/kg	(Dermal, Rabbit) >5000 mg/kg	

Information on toxicological effects**Symptoms**

MEDICAL CONDITION AGGRAVATED: Pre-existing disorders of the skin, respiratory system, and eyes will be aggravated by over exposure.

ACUTE HEALTH HAZARDS: Eye exposure causes transient pain and irritation

CHRONIC HEALTH HAZARDS: None known.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Carcinogenicity** OSHA: No ACGIH: No NTP: No IARC: No OTHER: CA Prop 65*ACGIH (American Conference of Governmental Industrial Hygienists)**A3 - Animal Carcinogen**IARC (International Agency for Research on Cancer)**Group 2B - Possibly Carcinogenic to Humans**Group 3 - Not classifiable as a human carcinogen**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***12. ECOLOGICAL INFORMATION****Ecotoxicity****Ethyl alcohol (64-17-5):** LC50 (Fish, 96h) 12,900 - 15,300 mg/L; LC50 (Bacteria, 24h) 11,200 mg/L; EC50 (Bacteria, 5-30m) 34,900 mg/L.**Soil Mobility**

This product is mobile in soil.

Persistence and Degradability

Component or components of this product are not biodegradable.

Bioaccumulation

This product is not expected to bioaccumulate.

Other Adverse Effects

None known.

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

Do not puncture or incinerate! If empty: Place in trash or offer for recycling if available. If partly filled: Call your local solid waste agency or 1-800-CLEANUP for disposal instructions.

RCRA status

Product should be fully characterized prior to disposal (40 CFR 261).

14. TRANSPORT INFORMATION

The basic description below is specific to the container size. This information is provided for at a glance DOT information. Please refer to the container and/or shipping papers for the appropriate shipping description before tendering this material for shipment. For additional information, please contact the distributor listed in section 1 of this SDS.

DOT

UN/ID No. UN 1950
 Proper Shipping Name Aerosols, Ltd. Qty.
 Hazard Class 2.1
 Packing Group N/A

AIR SHIPMENT

UN/ID No. UN 1950
 Proper Shipping Name Aerosols, Flammable
 Hazard Class 2.1
 Packing Group N/A

SHIPPING BY WATER: VESSEL (IMO/IMDG)

UN/ID No. UN 1950
 Proper Shipping Name Aerosols
 Hazard Class 2.1
 Environmental Hazards Water N/A
 Packing Group N/A

15. REGULATORY INFORMATION

International Inventories

TSCA All Chemicals are listed or exempt.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

US Federal Regulations

SARA 313

2-Phenylphenol (90-43-7).

SARA 311/312 Hazard Categories

Flammable (gases, aerosols, liquids, solids). Gas under pressure. Serious eye damage or eye irritation. Specific target organ toxicity (single or repeated exposure).

CERCLA

None.

CWA (Clean Water Act)

None.

US State Regulations

California Proposition 65: WARNING: This product can expose you to chemicals including 2-Phenylphenol, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

U.S. State Right-to-Know Regulations

Included on State Hazardous Substances Inventories, Right-to-Know lists and/or Air Quality or Air Pollutants lists for the following states:

Chemical Name	CA	DE	ID	ME	MA	MN	NJ	PA	NY	RI	WA	CT	FL	IL	TN	LA
Ethyl alcohol (64-17-5):	x		x		x	x	x	x			x					

International Regulations

No information available.

Volatile Organic Compounds (VOC)

69%

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: WARNING: Causes substantial but temporary eye injury. Harmful if absorbed through skin. Do not get in eyes or on skin or clothing. Wear long-sleeved shirt and long pants, protective eyewear (safety glasses), shoes and socks, and chemical resistant gloves (such as or made out of any water proof material). Wash hands thoroughly with soap and water before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing. Flammable. Contents under pressure. Keep away from heat, sparks, pilot lights, and flames. Do not puncture or incinerate container. Exposure to temperatures above 130°F (54°C) may cause bursting.

U.S. EPA Label Information

EPA Registration Number No. 44446-67-91641

16. OTHER INFORMATION

NFPA	Health hazards	1	Flammability	3	Reactivity	1	Other	None
HMIS	Health hazards	1	Flammability	3	Reactivity	1	Personal protection	A

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Revision Note

N/A = Not Applicable; N/D = Not Determined

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.

End of Safety Data Sheet