



Issue Date 30-Jan-2019

Revision Date 22-Feb-2021

Version 3

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

**Trade Name** Defender (Dilution 0.5 - 5550ppm)

### Other means of identification

**Synonyms** Klorkleen 2

### Recommended use of the chemical and restrictions on use

**Recommended Use** As indicated on US EPA master label, 71847-7, see enclosed.

**Uses advised against** As indicated on US EPA master label, 71847-7, see enclosed.

### Details of the supplier of the safety data sheet

#### Supplier Address

Trust Medical  
21370 Heywood Avenue,  
Lakeville, Minnesota, 55044, USA  
Phone: +1 888 200 0917  
Fax: +1 952 469 1823

#### Emergency telephone number

**Company Phone Number** +353 53 9117900

**24 Hour Emergency Phone Number** POISON CONTROL CENTER  
AT 1-800-222-1222

## 2. HAZARDS IDENTIFICATION

### Classification

#### **Health Hazards**

Not classified.

#### **Physical Hazards**

Not classified.

#### **OSHA Regulatory Status**

This product is not considered hazardous according to the OSHA Hazard Communication Standard (29 CFR 1910.1200, Revision 3).

### Label elements

#### **Emergency Overview**

Normal precautions common to safe manufacturing practice should be followed in handling and storage.

**Appearance** Colorless liquid

**Physical state** Liquid

**Odor** Slight chlorine

### Hazards not otherwise classified (HNOC)

Not available.

### Other information

Harmful to aquatic life with long lasting effects Harmful to aquatic life

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard/Globally Harmonized System of Classification and Labelling of Chemicals (GHS); (29 CFR 1910.1200; Revision 3).

**Synonyms** None known.

Chemical name	CAS No	Weight-%
Sodium-dichloro-s-triazinetrione	2893-78-9	0.000025-0.28
Adipic Acid	124-04-9	0.000012-0.13
Sodium Bicarbonate, USP	144-55-8	0.00001-0.12
Sodium carbonate	497-19-8	0.000002-0.02
Sodium dodecylbenzenesulfonate	25155-30-0	0.000001-0.01
Water	7732-18-5	> 99

### 4. FIRST AID MEASURES

#### Description of first aid measures

<b>General Advice</b>	Consult a physician. Show this safety data sheet to the doctor in attendance.
<b>Eye Contact</b>	In case of eye contact to tablet product, immediately flush eyes with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. Get medical attention if irritation persists.
<b>Skin Contact</b>	In case of contact to tablet product, remove contaminated clothing. Immediately flush skin with copious amounts of water for at least 15 minutes. Obtain medical attention if skin reaction occurs.
<b>Inhalation</b>	In case of inhaling dusts from broken tablets, immediately move exposed subject to fresh air. If not breathing, provide artificial respiration. If breathing is difficult, administer oxygen. Seek medical attention immediately.
<b>Ingestion</b>	In case of accidental ingestion of tablet product, wash out mouth with copious amounts of water. Seek medical attention immediately. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person.

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

**Symptoms** Not available.

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

**Note to Physicians** Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

#### Suitable extinguishing media

Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Unsuitable Extinguishing Media** None known.

#### Specific hazards arising from the chemical

Not available.

**Hazardous Combustion Products** Not available.

#### Explosion data

**Sensitivity to Mechanical Impact** Not available.

**Sensitivity to Static Discharge** Not available.

**Protective equipment and precautions for firefighters**

Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8, and follow handling guidance appropriate for the compound (see Section 7). Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

**Environmental precautions**

**Environmental Precautions** See Section 12 for additional ecological information. Prevent entry into waterways, sewers, surface drainage systems or wildlife water supply.

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

**Methods for Containment** Absorb with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

**Methods for Cleaning Up** Collect spill with absorbent material. Clean spill area thoroughly.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid generation of dust/mists. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Provide appropriate exhaust ventilation at places where vapor is formed. Do not eat, drink, or smoke when using this product. Use personal protection recommended in Section 8.

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

**Storage Conditions** Keep container tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** Not available.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines** This product, as supplied, contains the following hazardous material(s) with occupational exposure limits established by the region-specific regulatory bodies.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Adipic Acid 124-04-9	TWA: 5 mg/m <sup>3</sup>	-	-

**Appropriate engineering controls**

**Engineering Controls** The health hazard risks of handling this material are dependent on factors, such as physical form and quantity. Site-specific risk assessments should be conducted to determine the appropriate exposure control measures. Good general ventilation 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 as low as reasonably achievable.

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

<b>Eye/Face Protection</b>	In laboratory, medical or industrial settings, safety glasses with side shields are highly recommended. The use of goggles or full-face protection may be required depending on the industrial exposure setting. Contact a health and safety professional for specific information.
<b>Skin and Body Protection</b>	In laboratory, medical or industrial settings, gloves and lab coats are recommended. The use of additional personal protective equipment such as shoe coverings, gauntlets, hoods or head coverings may be necessary. Contact a health and safety professional for specific information.
<b>Respiratory Protection</b>	Not required for normal handling of packed product. Respirators/ PAPR may be required for certain laboratory and manufacturing tasks if engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (where the exposure limits have not been established). Workplace risk assessments should be completed before specifying and implementing respirator usage. All respirators must conform to specifications for efficiency and performance indicated by OSHA Standard 29 CFR 1910.134.
<b>General Hygiene Considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid	<b>Odor</b>	Slight chlorine
<b>Appearance</b>	Colorless liquid	<b>Odor Threshold</b>	Not available.
<b>Color</b>	Colorless		

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks</u></b>
<b>pH</b>	5-7	
<b>Melting Point/Freezing Point</b>	Not available.	
<b>Boiling Point/Boiling Range</b>	Not available.	
<b>Flash Point</b>	Not available.	
<b>Evaporation Rate</b>	Not available.	
<b>Flammability (solid, gas)</b>	Not available.	
<b>Flammability Limit in Air</b>		
<b>Upper Flammability Limit:</b>	Not available.	
<b>Lower Flammability Limit:</b>	Not available.	
<b>Vapor Pressure</b>	Not available.	
<b>Vapor Density</b>	Not available.	
<b>Specific Gravity</b>	Not available.	
<b>Water Solubility</b>	completely soluble	
<b>Solubility in Other Solvents</b>	Not available.	
<b>Partition Coefficient</b>	0	
<b>Autoignition Temperature</b>	Not available.	
<b>Hyphen</b>	225-250°C	
<b>Kinematic Viscosity</b>	Not available.	
<b>Dynamic Viscosity</b>	Not available.	
<b>Explosive Properties</b>	Not available.	
<b>Oxidizing Properties</b>	Not available.	

**Other information**

<b>Softening Point</b>	Not available.
<b>Molecular Weight</b>	Not available.
<b>VOC Content (%)</b>	Not available.
<b>Density</b>	1.0
<b>Bulk Density</b>	Not available.

## 10. STABILITY AND REACTIVITY

**Reactivity**

Not reactive under normal conditions.

**Chemical stability**

Stable under recommended handling and storage conditions.

**Possibility of hazardous reactions**

None under normal use conditions.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

None under recommended storage and handling conditions (see section 7).

**Incompatible materials**

Not available.

**Hazardous decomposition products**

None under normal use conditions.

## 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50	Intravenous LD50
Sodium-dichloro-s-triazinetrione 2893-78-9	= 1823 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	0.27 - 1.17 mg/L (Rat) 4 h	-
Adipic Acid 124-04-9	> 11000 mg/kg (Rat)	> 7940 mg/kg (Rabbit)	> 7700 mg/m <sup>3</sup> (Rat) 4 h	-
Sodium Bicarbonate, USP 144-55-8	= 4220 mg/kg (Rat)	-	-	-
Sodium carbonate 497-19-8	= 4090 mg/kg (Rat)	-	-	-
Sodium dodecylbenzenesulfonate 25155-30-0	= 500 mg/kg (Rat)	-	-	-
Water 7732-18-5	> 90 mL/kg (Rat)	-	-	-

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

Not available.

**Delayed and immediate effects as well as chronic effects from short- and long-term exposure****Skin Corrosion/Irritation**

Not a skin irritant.

**Serious Eye Damage/Eye Irritation**

Not irritating to eyes.

**Sensitization**

Not a potential sensitizer.

**Germ Cell Mutagenicity**

This product does not contain any ingredient that is tested positive for genotoxicity by Ames tests in 5 salmonella strains and 1 E. coli strain with or without rat microsomal activation.

<b>Carcinogenicity</b>	This product is not listed by ACGIH, IARC, NTP or USOSHA.
<b>Reproductive Toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Teratogenicity</b>	This product does not contain any known or suspected developmental hazards.
<b>STOT - Single Exposure</b>	Not classified.
<b>STOT - Repeated Exposure</b>	Not classified.
<b>Aspiration Hazard</b>	Not available.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Sodium-dichloro-s-triazinetri one 2893-78-9	-	0.25 - 1: 96 h Lepomis macrochirus mg/L LC50 static 0.207 - 0.389: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.176 - 0.267: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.29: 96 h Oncorhynchus mykiss mg/L LC50 0.13 - 0.36: 96 h Oncorhynchus mykiss mg/L LC50 static	-	0.00018 - 0.00021: 48 h Daphnia magna mg/L EC50 0.093 - 0.16: 48 h Daphnia magna mg/L EC50
Adipic Acid 124-04-9	31.3: 72 h Desmodemus subspicatus mg/L EC50 26.6: 96 h Desmodemus subspicatus mg/L EC50	97: 96 h Pimephales promelas mg/L LC50 static	-	85.7: 48 h Daphnia magna mg/L EC50
Sodium Bicarbonate, USP 144-55-8	-	8250 - 9000: 96 h Lepomis macrochirus mg/L LC50 static	-	2350: 48 h Daphnia magna mg/L EC50
Sodium carbonate 497-19-8	-	310 - 1220: 96 h Pimephales promelas mg/L LC50 static 300: 96 h Lepomis macrochirus mg/L LC50 static	-	265: 48 h Daphnia magna mg/L EC50
Sodium dodecylbenzenesulfonate 25155-30-0	-	10.8: 96 h Oncorhynchus mykiss mg/L LC50 static	-	-

### Persistence and degradability

The product is biodegradable.

### Bioaccumulation

The product does not bioaccumulate.

### Mobility

Not available.

Chemical name	Partition coefficient
Adipic Acid 124-04-9	0.081

### Other adverse effects

Not available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Disposal of Wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated Packaging** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**California Hazardous Waste Codes** Not applicable.

This product contains the following substance that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste Status
Sodium carbonate 497-19-8	Corrosive

### 14. TRANSPORT INFORMATION

**DOT** Not Applicable.

**IATA** Not Applicable.

**IMDG** Not Applicable.

**ADR** Not Applicable.

### 15. REGULATORY INFORMATION

#### US Federal Regulations

##### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

##### SARA 311/312 Hazard Categories

<b>Acute health hazard</b>	No
<b>Chronic Health Hazard</b>	No
<b>Fire hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

##### CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

##### CERCLA

This product is not listed by CERCLA, but as supplied, contains the following substance(s) 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)
Adipic Acid 124-04-9	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
Sodium dodecylbenzenesulfonate 25155-30-0	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

#### US State Regulations

##### California Proposition 65

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

This product contains the following substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sodium-dichloro-s-triazinetrione 2893-78-9	X		X
Adipic Acid 124-04-9	X		X
Sodium dodecylbenzenesulfonate 25155-30-0	X		X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

<b>16. OTHER INFORMATION</b>
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**HMIS III:**

<b>HEALTH</b>	<b>0</b>
<b>FLAMMABILITY</b>	<b>0</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

0 = Minimal Hazard  
 1 = Slight Hazard  
 2 = Moderate Hazard  
 3 = Serious Hazard  
 4 = Severe Hazard

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 Revision Note (M)SDS sections updated

**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 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**