



SAFETY DATA SHEET

DDP SPECIALTY ELECTRONIC MATERIALS US,
INC.

Product name: ROCIMA™ BT 2S MICROBICIDE

Issue Date: 10/16/2018

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DDP SPECIALTY ELECTRONIC MATERIALS US, INC. encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: ROCIMA™ BT 2S MICROBICIDE

Recommended use of the chemical and restrictions on use

Identified uses: Biocidal product

COMPANY IDENTIFICATION

DDP SPECIALTY ELECTRONIC MATERIALS US,
INC.

400 ARCOLA ROAD
COLLEGEVILLE PA 19426-2914
UNITED STATES

Customer Information Number:

833-338-7668

SDSQuestion-NA@dupont.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1-800-424-9300

Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Flammable liquids - Category 4

Corrosive to metals - Category 1

Acute toxicity - Category 4 - Oral

Skin corrosion - Category 1

Serious eye damage - Category 1

Skin sensitisation - Category 1

Label elements

Hazard pictograms



Signal word: **DANGER!**

Hazards

Combustible liquid.
May be corrosive to metals.
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Precautionary statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep only in original container.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Absorb spillage to prevent material damage.

Storage

Store in a well-ventilated place. Keep cool.
Store locked up.
Store in corrosive resistant stainless steel container with a resistant inner liner.

Disposal

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Organic Mixture Aqueous

This product is a mixture.

Component	CASRN	Concentration
Dipropylene glycol(Mixed isomers)	25265-71-8	58.0 - 62.0 %
1,2-Benzisothiazolin-3-one	2634-33-5	18.0 - 22.0 %
Water	7732-18-5	14.0 - 18.0 %
Sodium hydroxide	1310-73-2	5.0 - 7.0 %

4. FIRST AID MEASURES

Description of first aid measures

Inhalation: Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Consult a physician.

Skin contact: Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. Wash off immediately with soap and plenty of water. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

Ingestion: Clean mouth with water and drink afterwards plenty of water. If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: MATERIAL IS CORROSIVE. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock and convulsions maybe necessary.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Use the following extinguishing media when fighting fires involving this material: Dry powder Carbon dioxide (CO2) Foam Water spray

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, irritating and highly toxic gases and/or fumes may be generated during combustion or decomposition.

Unusual Fire and Explosion Hazards: Do not allow run-off from fire fighting to enter drains or water courses.

Advice for firefighters

Fire Fighting Procedures: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuate personnel to safe areas. Refer to protective measures listed in sections 7 and 8. Wear respiratory protection. MATERIAL IS CORROSIVE. If exposed to material during clean-up operations, IMMEDIATELY remove all contaminated clothing and wash exposed skin areas with soap and water. MATERIAL IS A POTENTIAL SENSITIZER.

Environmental precautions: Prevent product from entering drains. Do not contaminate surface water.

Methods and materials for containment and cleaning up: WARNING: KEEP SPILLS AND CLEAN-UP RESIDUALS OUT OF MUNICIPAL SEWERS AND OPEN BODIES OF WATER. Adsorb the spill with spill pillows or inert solids such as clay or vermiculite, and transfer contaminated materials to suitable containers for disposal. Deactivate spill area with freshly prepared solution of 5% sodium bicarbonate and 5% sodium hypochlorite in water. Apply solution to the spill area at a ratio of 10 volumes deactivation solution per estimated volume of residual spill to deactivate any residual active ingredient. Let stand for 30 minutes. Flush the spill area with copious amounts of water to chemical sewer (if in accordance with local procedures, permits and regulations). DO NOT add deactivation solution to the waste pail to deactivate the adsorbed material. See Section 13, "Disposal Considerations", for information regarding the disposal of contained materials.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with skin and eyes. For personal protection see section 8. Wear personal protective equipment. Plan first aid action before beginning work with this product. May cause sensitisation of susceptible persons by skin contact. CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all MSDS and label warnings even after container is emptied.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Storage stability

Other data: No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
1,2-Benzisothiazolin-3-one	Rohm and Haas	TWA	0.06 mg/m ³
	Rohm and Haas	STEL	0.1 mg/m ³
Sodium hydroxide	ACGIH	C	2 mg/m ³
	OSHA Z-1	TWA	2 mg/m ³

Exposure controls

Engineering controls: Use local exhaust ventilation with a minimum capture velocity of 100 ft/min. (0.5 m/sec.) at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Hygiene measures: Shower or bathe at the end of working.

Individual protection measures

Eye/face protection: Tightly fitting safety goggles. Face-shield

Skin protection

Hand protection: Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation.

(Gloves of other chemically resistant materials may not provide adequate protection): Nitrile rubber. Butyl-rubber. Rinse and remove gloves immediately after use. Wash hands with soap and water. NOTE: Material is a possible skin sensitizer.

Respiratory protection: A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Where vapors and/or mists may occur, wear a properly fitted NIOSH approved (or equivalent) half-mask, air-purifying respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	liquid clear
Color	Yellow to brown
Odor	Mild odor
Odor Threshold	no data available
pH	12 - 13 10% Solution
Melting point/range	-40 °C (-40 °F)
Freezing point	no data available
Boiling point (760 mmHg)	100 °C (212 °F)
Flash point	>93 °C (199 °F) <i>SETAFLASH CLOSED CUP</i>
Evaporation Rate (Butyl Acetate = 1)	no data available

Flammability (solid, gas)	Not Applicable
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapor Pressure	12.2 mmHg at 25 °C (77 °F)
Relative Vapor Density (air = 1)	no data available
Relative Density (water = 1)	1.13 at 25 °C (77 °F)
Water solubility	soluble
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	305 °C (581 °F) Solvent
Decomposition temperature	no data available
Dynamic Viscosity	200 - 500 mPa.s at 25 °C (77 °F)
Kinematic Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available
Molecular weight	no data available
Percent volatility	70.26 %
Volatile Organic Compounds	0.66 g/cm ³

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: no data available

Possibility of hazardous reactions: Product will not undergo polymerization.
Stable under recommended storage conditions.

Conditions to avoid: no data available

Incompatible materials: Incompatible with strong acids and oxidizing agents. Amines. Mercaptans.
Reducing agents.

Hazardous decomposition products: Stable under recommended storage conditions.

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity

Acute oral toxicity
LD50, Rat, 1,049 mg/kg

Acute dermal toxicity

LD50, Rat, > 2,000 mg/kg

Acute inhalation toxicity

Product test data not available.

Skin corrosion/irritation

Corrosive after 1 to 4 hours of exposure

Serious eye damage/eye irritation

Corrosive

Sensitization

May cause sensitisation by skin contact.

Specific Target Organ Systemic Toxicity (Single Exposure)

Product test data not available.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Product test data not available.

Carcinogenicity

Product test data not available.

Teratogenicity

Did not show teratogenic effects in animal experiments.

Reproductive toxicity

No toxicity to reproduction

Mutagenicity

Non-mutagenic

Aspiration Hazard

Product test data not available.

Additional information

No data are available for this material. The information shown is based on profiles of compositionally similar materials.

COMPONENTS INFLUENCING TOXICOLOGY:

Dipropylene glycol(Mixed isomers)

Acute inhalation toxicity

Vapors are unlikely due to physical properties. Based on the available data, narcotic effects were not observed. Based on the available data, respiratory irritation was not observed.

Maximum attainable concentration. LC50, Rat, 4 Hour, vapour, > 2.34 mg/l No deaths occurred at this concentration.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

In animals, effects have been reported on the following organs after ingestion:

Kidney.

Nasal tissue.

Carcinogenicity

Did not cause cancer in laboratory animals.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

1,2-Benzisothiazolin-3-one

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Sodium hydroxide

Acute inhalation toxicity

The LC50 has not been determined.

Specific Target Organ Systemic Toxicity (Single Exposure)

Available data are inadequate to determine single exposure specific target organ toxicity.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Carcinogenicity

No relevant data found.

Aspiration Hazard

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

General Information

There is no data available for this product.

Toxicity

Dipropylene glycol(Mixed isomers)

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Based on information for a similar material:

LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 46,500 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 48 Hour, > 100 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

EC50, Desmodesmus subspicatus (green algae), static test, 72 Hour, Biomass, > 100 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC50, Bacteria, 16 Hour, > 5,000 mg/l

Toxicity to Above Ground Organisms

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

LD50, Colinus virginianus (Bobwhite quail), 14 d, mortality, > 2,000 mg/kg

1,2-Benzisothiazolin-3-one

Acute toxicity to fish

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50, Rainbow trout (Oncorhynchus mykiss), 96 Hour, 1.9 mg/l

Acute toxicity to aquatic invertebrates

LC50, Mysid shrimp (Mysidopsis bahia), 96 Hour, 1.9 mg/l

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, 0.8 mg/l, OECD Test Guideline 201 or Equivalent

NOEC, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, 0.21 mg/l, OECD Test Guideline 201 or Equivalent

ErC50, diatom Skeletonema costatum, static test, 72 Hour, 0.36 mg/l, OECD Test Guideline 201 or Equivalent

NOEC, diatom Skeletonema costatum, static test, 72 Hour, 0.15 mg/l, OECD Test Guideline 201 or Equivalent

Sodium hydroxide

Acute toxicity to fish

May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.

Persistence and degradability

Dipropylene glycol(Mixed isomers)

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Not applicable

Biodegradation: 84.4 %

Exposure time: 28 d

Method: OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable
Biodegradation: 23.6 %
Exposure time: 64 d
Method: OECD Test Guideline 306 or Equivalent

Theoretical Oxygen Demand: 1.91 mg/mg Estimated.

1,2-Benzisothiazolin-3-one

Biodegradability: Abiotic degradation: The material is rapidly degradable by abiotic means.

Biodegradation: 24 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent

Sodium hydroxide

Biodegradability: Biodegradation is not applicable.

Bioaccumulative potential

Dipropylene glycol(Mixed isomers)

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -0.46 OECD Test Guideline 107 or Equivalent
Bioconcentration factor (BCF): 0.3 - 4.6 Cyprinus carpio (Carp) 42 d Measured

1,2-Benzisothiazolin-3-one

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 1.19 OECD Test Guideline 117 or Equivalent
Bioconcentration factor (BCF): 3.2 Fish. Calculated.

Sodium hydroxide

Bioaccumulation: No bioconcentration is expected because of the relatively high water solubility.

Mobility in soil

Dipropylene glycol(Mixed isomers)

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 0.76 Estimated.

1,2-Benzisothiazolin-3-one

Potential for mobility in soil is high (Koc between 50 and 150).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient(Koc): 104 Estimated.

Sodium hydroxide

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 14 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: Dispose of as special waste in compliance with local and national regulations. Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging: Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Corrosive liquids, n.o.s.(1,2-Benzisothiazolin-3-one, Sodium hydroxide)
UN number	UN 1760
Class	8
Packing group	II
Reportable Quantity	Sodium hydroxide

Classification for SEA transport (IMO-IMDG):

Proper shipping name	CORROSIVE LIQUID, N.O.S.(1,2-Benzisothiazolin-3-one, Sodium hydroxide)
UN number	UN 1760
Class	8
Packing group	II
Marine pollutant	No
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Corrosive liquid, n.o.s.(1,2-Benzisothiazolin-3-one, Sodium hydroxide)
UN number	UN 1760
Class	8
Packing group	II

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Acute Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania

Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

United States TSCA Inventory (TSCA)

This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

Federal Insecticide, Fungicide and Rodenticide Act

EPA Registration Number: 707-314

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:

DANGER

corrosive

Causes irreversible eye damage

Causes skin burns

May be fatal if inhaled

Harmful if swallowed

Harmful if absorbed through the skin

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

This product is toxic to fish and aquatic invertebrates.

16. OTHER INFORMATION

Hazard Rating System

HMIS

Health	Flammability	Physical Hazard
3	1	0

Revision

Identification Number: 101120470 / A749 / Issue Date: 10/16/2018 / Version: 3.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
C	Ceiling limit
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
Rohm and Haas	Rohm and Haas OEL's
STEL	Short Term Exposure Limit (STEL):
TWA	8-hour time weighted average

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DDP SPECIALTY ELECTRONIC MATERIALS US, INC. urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.