



SAFETY DATA SHEET

DDP SPECIALTY ELECTRONIC MATERIALS US,
INC.

Product name: ROCIMA™ 607 Biocide

Issue Date: 10/15/2018

Print Date: 04/24/2020

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™ 607 Biocide

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.

Acute toxicity - Category 4 - Inhalation

Skin irritation - Category 2

Serious eye damage - Category 1

Skin sensitisation - Category 1

Label elements

Hazard pictograms



Signal word: **DANGER!**

Hazards

Causes skin irritation.
 May cause an allergic skin reaction.
 Causes serious eye damage.
 Harmful if inhaled.

Precautionary statements

Prevention

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 Wash skin thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Contaminated work clothing should not be allowed out of the workplace.
 Wear eye protection/ face protection.
 Wear protective gloves.

Response

IF ON SKIN: Wash with plenty of soap and water.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
 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.
 Take off contaminated clothing and wash before reuse.

Disposal

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

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Solution of organic and inorganic compounds

This product is a mixture.

Component	CASRN	Concentration
Benzisothiazolin-3-one	2634-33-5	>= 11.0 - <= 13.0 %
Bronopol	52-51-7	>= 9.0 - <= 11.0 %

Water	7732-18-5	>= 68.0 - <= 71.0 %
Triethylene glycol	112-27-6	>= 5.0 - <= 7.0 %

4. FIRST AID MEASURES

Description of first aid measures

Inhalation: Move to fresh air. Oxygen or artificial respiration if needed. Consult a physician.

Skin contact: Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. Wash contaminated clothing before re-use. Immediate medical attention is required.

Eye contact: Rinse immediately with plenty of water and seek medical advice.

Ingestion: Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position. Call a physician immediately.

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: Treatment should be directed at preventing absorption, administering to symptoms (if they occur), and providing supportive therapy.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water spray Foam Dry powder Carbon dioxide (CO₂)

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. Cool closed containers exposed to fire with water spray.

Advice for firefighters

Fire Fighting Procedures: Contain run-off. Remain upwind. Avoid breathing noxious fumes from fire-exposed material.

Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Ventilate the area. Refer to protective measures listed in sections 7 and 8. MATERIAL IS A POTENTIAL SENSITIZER.

Environmental precautions: Try to prevent the material from entering drains or water courses. Do not contaminate surface water.

Methods and materials for containment and cleaning up: Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up or vacuum up spillage and collect in suitable container for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with skin and eyes. For personal protection see section 8. 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.

Other data: This material is a potential skin sensitizer. See SECTION 8, Exposure Controls/Personal Protection, prior to handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Benzisothiazolin-3-one	Dow IHG	TWA	0.06 mg/m ³
	Dow IHG	STEL	0.1 mg/m ³
Triethylene glycol	Dow IHG	TWA Total	100 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.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Individual protection measures

Eye/face protection: Tightly fitting safety goggles

Skin protection

Hand protection: Chemical-resistant gloves should be worn whenever this material is handled. Wear suitable gloves. Rubber or plastic gloves. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water.

Other protection: Chemical resistant apron Impervious clothing
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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Flowable paste
Color	off-white light yellow light brown
Odor	No data available
Odor Threshold	No data available
pH	6.0
Melting point/range	>-1.00 °C (30.20 °F)
Freezing point	No data available
Boiling point (760 mmHg)	>100.00 °C (212.00 °F)
Flash point	closed cup >100 °C (212 °F)
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	0.2500000 Pa
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	No data available
Water solubility	Miscible
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	>250.00 °C (482.00 °F)
Decomposition temperature	No data available
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	No data available

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: Stable under recommended storage conditions.

Conditions to avoid: None known.

Incompatible materials: None known.

Hazardous decomposition products: No data available

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

LD50, Rat, 2,474 mg/kg

Acute dermal toxicity

LD50, Rat, > 5,000 mg/kg

Acute inhalation toxicity

LC50, Rat, 4 Hour, dust/mist, 2.2 mg/l

Skin corrosion/irritation

(US Classification)

Serious eye damage/eye irritation

(US Classification)

Sensitization

May cause sensitisation by skin contact.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Product test data not available. Refer to component data.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Product test data not available. Refer to component data.

Carcinogenicity

Product test data not available. Refer to component data.

Teratogenicity

Product test data not available. Refer to component data.

Reproductive toxicity

Product test data not available. Refer to component data.

Mutagenicity

Product test data not available. Refer to component data.

Aspiration Hazard

Product test data not available. Refer to component data.

COMPONENTS INFLUENCING TOXICOLOGY:

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.

Carcinogenicity

No relevant data found.

Teratogenicity

Did not cause birth defects in laboratory animals.

Reproductive toxicity

In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Mutagenicity

Not mutagenic when tested in bacterial or mammalian systems.

Bronopol

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause respiratory irritation.

Route of Exposure: Inhalation

Target Organs: Respiratory Tract

Specific Target Organ Systemic Toxicity (Repeated Exposure)

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

Kidney.

Salivary glands.

May cause nausea and vomiting.

Carcinogenicity

Did not cause cancer in laboratory animals.

Teratogenicity

Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Reproductive toxicity

In animal studies, did not interfere with reproduction in females.

Mutagenicity

In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were negative.

Aspiration Hazard

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

Triethylene glycol**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 expected to cause significant adverse effects except at very high aerosol concentrations. Repeated excessive aerosol exposures may cause respiratory tract irritation and even death.

Carcinogenicity

Did not cause cancer in laboratory animals.

Teratogenicity

Triethylene glycol did not cause birth defects in animals; reduced fetal body weight effects were seen only at very high doses.

Reproductive toxicity

In animal studies, did not interfere with reproduction.

Mutagenicity

In vitro genetic toxicity studies were negative.

Aspiration Hazard

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

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

General Information

Very toxic to aquatic organisms.

Toxicity**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, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, *Daphnia magna* (Water flea), flow-through test, 48 Hour, 3.7 mg/l, OECD Test Guideline 202 or Equivalent

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, Growth rate, 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, Growth rate, 0.15 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC50, Bacteria (active sludge), Respiration inhibition of activated sludge, 3 Hour, 28.52 mg/l

Bronopol

Acute toxicity to fish

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

LC50, Lepomis macrochirus (Bluegill sunfish), flow-through test, 96 Hour, 11 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna, 48 Hour, 1.08 mg/l

EC50, eastern oyster (Crassostrea virginica), 96 Hour, 0.77 mg/l

Acute toxicity to algae/aquatic plants

ErC50, green alga Pseudokirchneriella subcapitata (formerly known as Selenastrum capricornutum), Static, 72 Hour, Growth rate inhibition, 0.25 mg/l

NOEC, green alga Pseudokirchneriella subcapitata (formerly known as Selenastrum capricornutum), Static, 72 Hour, Growth rate inhibition, 0.03 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), flow-through test, 21 d, 0.06 mg/l

Toxicity to Above Ground Organisms

Material is slightly toxic to birds on a dietary basis (LC50 between 1001 and 5000 ppm).

Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

oral LD50, Anas platyrhynchos (Mallard duck), 510 mg/kg

Triethylene glycol

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).

LC50, Lepomis macrochirus (Bluegill sunfish), static test, 96 Hour, > 10,000 mg/l, Method Not Specified.

LC50, Pimephales promelas (fathead minnow), flow-through test, 96 Hour, 69,800 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 48 Hour, > 10,000 mg/l, DIN 38412

Toxicity to bacteria

EC50, Bacteria, 16 Hour, > 10,000 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, > 15,000 mg/l

ChV (Chronic Value), Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, > 15,000 mg/l

Persistence and degradability

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

Theoretical Oxygen Demand: 2.22 mg/mg

Photodegradation

Sensitizer: OH radicals

Atmospheric half-life: 7.6 hrs

Method: Estimated.

Bronopol

Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

Biodegradation: 51 - 57 %

Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

10-day Window: Not applicable

Biodegradation: 99 %

Exposure time: 1 hrs

Method: Simulation study

Theoretical Oxygen Demand: 0.56 mg/mg

Chemical Oxygen Demand: 0.56 - 0.61 mg/mg

Triethylene glycol

Biodegradability: Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability). Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 90 - 100 %

Exposure time: 10 d

Method: OECD Test Guideline 301A or Equivalent

10-day Window: Not applicable

Biodegradation: > 70 %

Exposure time: 2 - 14 d

Method: OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 1.60 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	12 - 32 %
10 d	15 - 64 %
20 d	17 - 86 %

Photodegradation**Test Type:** Half-life (indirect photolysis)**Sensitizer:** OH radicals**Atmospheric half-life:** 10.6 Hour**Method:** Estimated.**Bioaccumulative potential****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.**Bronopol****Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).**Partition coefficient: n-octanol/water(log Pow):** -0.42 at 20 °C Calculated.**Bioconcentration factor (BCF):** 3.16 Estimated.**Triethylene glycol****Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).**Partition coefficient: n-octanol/water(log Pow):** -1.75 Estimated.**Mobility in soil****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.**Bronopol**

Potential for mobility in soil is very high (Koc between 0 and 50).

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): 10 Estimated.**Triethylene glycol**

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): 10 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: For disposal, incinerate this material at a facility that complies with local, state, and federal regulations. (See 40 CFR 268)

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(1,2-Benzisothiazolin-3-one, Bronopol)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	1,2-Benzisothiazolin-3-one, Bronopol
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	Environmentally hazardous substance, liquid, n.o.s.(1,2-Benzisothiazolin-3-one, Bronopol)
UN number	UN 3082
Class	9
Packing group	III

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
Chronic 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: 707-295

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

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

Harmful if absorbed through skin

Harmful if inhaled

Harmful if swallowed

This product is toxic to fish and wildlife.

16. OTHER INFORMATION**Hazard Rating System****HMIS**

Health	Flammability	Physical Hazard
3*	1	0

* = Chronic Effects (See Hazards Identification)

Revision

Identification Number: 101127050 / A749 / Issue Date: 10/15/2018 / Version: 2.1

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

Legend

Dow IHG	Dow Industrial Hygiene Guideline
STEL	Short Term Exposure Limit (STEL):
TWA	Time Weighted Average (TWA):

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.