SAFETY DATA SHEET

DDP SPECIALTY ELECTRONIC MATERIALS US, INC.

Product name: NEOLONE™ 950 Preservative

Issue Date: 12/20/2018
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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: NEOLONE™ 950 Preservative

Recommended use of the chemical and restrictions on use
Identified uses: Preservative

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
GHS classification in accordance with 29 CFR 1910.1200
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
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Causes serious eye damage.

Precautionary statements

Prevention
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/doctor if you feel unwell. Rinse mouth.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
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/doctor.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.

Storage
Store locked up.

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
2-Methyl-4-isothiazolin-3-one	2682-20-4	>= 9.5 - 9.9 %
Water	7732-18-5	>= 89.1 - 89.5 %
Related reaction products	Not Required	<= 1.0 %

4. FIRST AID MEASURES

Description of first aid measures
Inhalation: Move to fresh air. Give artificial respiration if breathing has stopped. If symptoms persist, call a physician.

Skin contact: IMMEDIATELY get under a safety shower. Remove contaminated clothing. Wash off with soap and water. Immediate medical attention is required. Wash contaminated clothing before re-use. Do not take clothing home to be laundered. Discard contaminated shoes, belts, and other articles made of leather.

Eye contact: Rinse immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Ingestion: Drink 1 or 2 glasses of water. IMMEDIATELY see a physician. Never give anything by mouth to an unconscious person.

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 extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: No data available

Special hazards arising from the substance or mixture
Hazardous combustion products: No data available

Unusual Fire and Explosion Hazards: Combustion generates toxic fumes of the following: Nitrogen oxides (NOx) sulfur oxides

Advice for firefighters
Fire Fighting Procedures: Cool containers/tanks with water spray. Minimize exposure. Do not breathe fumes. Contain run-off.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Wear a NIOSH approved (or equivalent) respirator (with organic vapor/acid gas cartridge and a dust/mist filter) during spill clean-ups and deactivation of this material. MATERIAL IS CORROSIVE. Protective clothing, including chemical splash goggles, nitrile or butyl rubber full length gloves, rubber apron, or clothing made of nitrile or butyl rubber, and rubber overshoes must be worn during spill clean-ups and deactivation of this material. If material comes in contact with the skin during clean-up operations, IMMEDIATELY remove all contaminated clothing and wash exposed skin areas with soap and water. See SECTION 4, First Aid Measures, for further information.

Environmental precautions: Do not allow material to contaminate ground water system. Prevent product from entering drains.

Methods and materials for containment and cleaning up: WARNING: KEEP SPILLS AND CLEAN-UP RESIDUALS OUTOF 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 deac tivate 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: This material is a severe irritant. For personal protection see section 8. Do not handle material near food, feed or drinking water.

Conditions for safe storage: Keep in a well-ventilated place. Do not store this material near food, feed or drinking water.
CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all (M)SDS and label warnings even after container is emptied. Expiration date based only on retention of >95% actives during storage at 20ºC-25ºC (68ºF-77ºF).

Storage stability
Storage temperature: 1 - 55 °C (34 - 131 °F)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
2-Methyl-4-isothiazolin-3-one	Dow IHG	TWA	1.5 mg/m3
	Dow IHG	STEL	4.5 mg/m3

Exposure controls

Engineering controls: Use local exhaust ventilation with a minimum capture velocity of 150 ft/min. (0.75 m/sec.) at the point of dust or mist 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.

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: Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.

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): butyl-rubber Nitrile rubber PVC gloves >1 mm thickness 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. NOTE: Material is a possible skin sensitizer.

Other protection: Wear as appropriate: Chemical resistant apron complete suit protecting against chemicals

Respiratory protection: Typical use of this material does not result in workplace exposures that exceed the exposure limits listed in the Exposure Limit Information Section. For those special workplace conditions where the listed exposure limits are exceeded, a respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed. For concentrations up to 10 times the exposure limit, wear a properly fitted NIOSH approved (or equivalent) half-mask or full facepiece air purifying respirator equipped with organic vapor cartridges and N95 filters. If oil mist is present, use R95 or P95 filters. For those unlikely situations where exposure may greatly exceed the listed exposure limits (i.e. greater than 10-fold), or in any emergency situation, wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode or a full facepiece airline respirator in the pressure demand mode with emergency escape provision. See SECTION 6, Accidental Release Measures, for respirator and protective clothing requirements for spill clean-up and decontamination of this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	liquid clear
Color	colourless
Odor	Mild odor
Odor Threshold	No data available
pH	3 - 6
Melting point/range	-20 - -15 °C (-4 - 5 °F) Solidifies
Freezing point	No data available
Boiling point (760 mmHg)	100.00 °C (212.00 °F) Water
Flash point	Noncombustible

Evaporation Rate (Butyl Acetate = 1)	<1.00 Water
Flammability (solid, gas)	Not Applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor Pressure	17.0000000 mmHg at 20.00 °C (68.00 °F) Water
Relative Vapor Density (air = 1)	<1.0000 at 20.00 °C (68.00 °F) Water
Relative Density (water = 1)	1.0200 at 25.00 °C (77.00 °F)
Water solubility	completely soluble
Partition coefficient: n-octanol/water	log Pow: -0.486 *Method Not Specified.*
Auto-ignition temperature	Not applicable
Decomposition temperature	No data available
Dynamic Viscosity	1.000 mPa.s at 25.00 °C (77.00 °F)
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	No data available
Percent volatility	89.00 % Water

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.
Product will not undergo polymerization.

Conditions to avoid: No data available

Incompatible materials: Avoid contact with the following: Oxidizing agents Amines Reducing agents Mercaptans.

Hazardous decomposition products: Nitrogen oxides (NOx) Sulphur oxides hydrogen chloride

11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

Acute oral toxicity
LD50, Rat, female, 1,091 mg/kg
LD50, Rat, male, 2,834 mg/kg

Acute dermal toxicity
LD50, Rabbit, > 5,000 mg/kg

Acute inhalation toxicity
Product test data not available. Refer to component data.

Skin corrosion/irritation
Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Serious eye damage/eye irritation
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Sensitization
Causes sensitisation.

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
Did not show carcinogenic effects in animal experiments.

Teratogenicity
Did not show teratogenic effects in animal experiments.

Reproductive toxicity
Product test data not available. Refer to component data.

Mutagenicity
Non-mutagenic

Aspiration Hazard
Product test data not available. Refer to component data.

COMPONENTS INFLUENCING TOXICOLOGY:

2-Methyl-4-isothiazolin-3-one

Acute inhalation toxicity
The LC50 has not been determined.,

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

Reproductive toxicity
In animal studies, did not interfere with reproduction.

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

Related reaction products

Acute inhalation toxicity
The LC50 has not been determined.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
No relevant data found.

Reproductive toxicity
No relevant data found.

Aspiration Hazard
Based on available information, aspiration hazard could not be determined.

12. ECOLOGICAL INFORMATION

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

Toxicity

2-Methyl-4-isothiazolin-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, Oncorhynchus mykiss (rainbow trout), 96 Hour, 4.77 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), 48 Hour, 0.93 - 1.9 mg/l

Acute toxicity to algae/aquatic plants
EC50, Algae (Selenastrum capricornutum), 72 Hour, Growth rate, 0.158 mg/l, OECD Test Guideline 201

Chronic toxicity to fish
NOEC, Pimephales promelas (fathead minnow), 33 d, 2.1 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna, 21 d, 0.04 mg/l

Related reaction products

Acute toxicity to fish
No relevant data found.

Persistence and degradability

2-Methyl-4-isothiazolin-3-one
Biodegradability: Material is expected to be readily biodegradable.

Biodegradation: 98 %
Exposure time: 48 d
Method: Simulation study

Related reaction products
Biodegradability: No relevant data found.

Bioaccumulative potential
Partition coefficient: n-octanol/water(log Pow): -0.486 at 24 °C Method Not Specified.

Mobility in soil

2-Methyl-4-isothiazolin-3-one
No relevant data found.

Related reaction products
No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: Incinerate liquid and contaminated solids in accordance with local, state, and federal regulations. (See 40 CFR 268)

Contaminated packaging: Empty containers retain product residues. Follow label warnings even after container is emptied. Improper disposal or reuse of this container may be dangerous and illegal. Refer to applicable federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Corrosive liquid, acidic, organic, n.o.s.(2-Methyl-4-isothiazolin-3-one)
UN number	UN 3265
Class	8
Packing group	II

Classification for SEA transport (IMO-IMDG):

Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2-Methyl-4-isothiazolin-3-one)
UN number	UN 3265
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, acidic, organic, n.o.s.(2-Methyl-4-isothiazolin-3-one)
UN number	UN 3265
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

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitisation

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

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.

California Prop. 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

United States TSCA Inventory (TSCA)
The product is used in a food, drug or cosmetic application and is subject to the applicable regulation. The product may only be used in the exempt application.

16. OTHER INFORMATION

Hazard Rating System
HMIS

Health	Flammability	Physical Hazard
3	0	0

Revision
Identification Number: 6025831 / A749 / Issue Date: 12/20/2018 / Version: 2.2
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
TWA	Time weighted average

Full text of other abbreviations
AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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.
US