



SAFETY DATA SHEET

DDP SPECIALTY ELECTRONIC MATERIALS
US 9, LLC

**Product name: MICROPOSIT™ S1813™ G2 SP15 POSITIVE
PHOTORESIST**

Issue Date: 01/16/2017

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DDP SPECIALTY ELECTRONIC MATERIALS US 9, LLC 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: MICROPOSIT™ S1813™ G2 SP15 POSITIVE PHOTORESIST

Recommended use of the chemical and restrictions on use

Identified uses: For industrial use: use in the manufacturing of semiconductor devices

Uses advised against: We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

COMPANY IDENTIFICATION

DDP SPECIALTY ELECTRONIC MATERIALS
US 9, LLC
2200 WEST SALZBURG ROAD
MIDLAND MI 48686-0994
UNITED STATES

Customer Information Number:

800-258-2436
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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 3

Specific target organ toxicity - single exposure - Category 3

Label elements

Hazard pictograms



Signal word: **WARNING!**

Hazards

Flammable liquid and vapour.
May cause drowsiness or dizziness.

Precautionary statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ eye protection/ face protection.

Response

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. Call a POISON CENTER/doctor if you feel unwell.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage

Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
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: Solution of organic compounds

This product is a mixture.

Component	CASRN	Concentration
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Electronic grade propylene glycol monomethyl ether acetate	108-65-6	65.0 - 75.0 %
Mixed cresol novolak resin		15.0 - 25.0 %
Diazo Photoactive Compound		1.0 - 10.0 %
Fluorinated Surfactant		< 0.1 %
Methoxy-1-propanol acetate	70657-70-4	< 1.0 %
Cresol	1319-77-3	< 0.5 %
1,4-Dioxane	123-91-1	< 0.5 %

4. FIRST AID MEASURES

Description of first aid measures

Inhalation: Remove from exposure. If there is difficulty in breathing, give oxygen. Seek medical attention if symptoms persist.

Skin contact: Wash skin with water. Continue washing for at least 15 minutes. Obtain medical attention if blistering occurs or redness persists.

Eye contact: Immediately flush the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Ingestion: Wash out mouth with water. Have victim drink 1-3 glasses of water to dilute stomach contents. Induce vomiting if person is conscious. Immediate medical attention is required. Never administer anything by mouth if a victim is losing consciousness, is unconscious or is convulsing.

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: Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Dry sand Dry chemical Alcohol-resistant foam Carbon dioxide (CO₂) Keep containers and surroundings cool with water spray.

Unsuitable extinguishing media: Straight or direct water streams may not be effective to extinguish fire.

Special hazards arising from the substance or mixture

Hazardous combustion products: No data available

Unusual Fire and Explosion Hazards: This product may give rise to hazardous vapors in a fire. Vapors can travel a considerable distance to a source of ignition and result in flashback.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Wear suitable protective clothing. Wear respiratory protection. Eliminate all ignition sources.

Environmental precautions: Prevent the material from entering drains or water courses. Do not discharge directly to a water source. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

Methods and materials for containment and cleaning up: Contain spills immediately with inert materials (e.g., sand, earth). Transfer into suitable containers for recovery or disposal. Finally flush area with plenty of water.

7. HANDLING AND STORAGE

Precautions for safe handling: Use local exhaust ventilation. Avoid contact with eyes, skin and clothing. Keep container tightly closed.

Conditions for safe storage: Store in original container. Keep away from heat and sources of ignition. Storage area should be: cool dry well ventilated out of direct sunlight
Proprietary photoresist film contains approximately 2-4% of 2,3,4-trihydroxybenzophenone (THBP), which may sublime during soft-bake or hard-bake processing. THBP has low acute toxicity (LD50>5g/kg). Contact with eyes, skin or mucous membranes cause irritation. To prevent accumulation of THBP on equipment surfaces and ventilation ducts, preventative maintenance program including regular cleaning should be implemented. Wipe surfaces using an appropriate cleaning solvent when possible. Provide adequate general or local exhaust ventilation during the cleaning process. In situations where this is not possible or where solvent or dust concentrations become excessive, use an air purifying respirator with an organic vapor/ toxic particulate cartridge. When cleaning residual THBP, wear protective gloves and adequate protective clothing to prevent skin contact. Practice good personal hygiene to prevent accidental exposure. Clean all protective clothing and equipment thoroughly after each use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
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Electronic grade propylene glycol monomethyl ether acetate	Dow IHG	TWA	30 ppm
	Dow IHG	TWA	SKIN
	Dow IHG	STEL	90 ppm
	Dow IHG	STEL	SKIN
Cresol	US WEEL	TWA	50 ppm
	ACGIH	TWA Inhalable fraction and vapor	20 mg/m3
1,4-Dioxane	OSHA Z-1	TWA	22 mg/m3 5 ppm
	Dow IHG	TWA	5 ppm
	Dow IHG	TWA	SKIN
	ACGIH	TWA	20 ppm
	ACGIH	TWA	SKIN
	OSHA Z-1	TWA	360 mg/m3 100 ppm
	OSHA Z-1	TWA	SKIN

Exposure controls

Engineering controls: Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (local exhaust), and control of process conditions.

Individual protection measures

Eye/face protection: Goggles

Skin protection

Hand protection: Butyl rubber gloves. Other chemical resistant gloves may be recommended by your safety professional.

Other protection: Normal work wear.

Respiratory protection: Respiratory protection if there is a risk of exposure to high vapor concentrations. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	liquid
Color	red
Odor	sweet
Odor Threshold	Not applicable
pH	neutral
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	ca.140 °C (284 °F)
Flash point	ca.40 - 46 °C (104 - 115 °F)
Evaporation Rate (Butyl Acetate = 1)	0.33
Flammability (solid, gas)	Not Applicable
Lower explosion limit	1.5 % vol <i>Literature</i> Propylene glycol monomethyl ether acetate

Upper explosion limit	7 % vol <i>Literature</i> Propylene glycol monomethyl ether acetate
Vapor Pressure	2.8 mmHg at 20 °C (68 °F)
Relative Vapor Density (air = 1)	Heavier than air.
Relative Density (water = 1)	1.04 - 1.06 at 20 °C (68 °F)
Water solubility	insoluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	333 °C (631 °F)
Decomposition temperature	No data available
Kinematic Viscosity	No data available
Explosive properties	Not explosive
Oxidizing properties	No
Molecular weight	Not applicable
Volatile Organic Compounds	595 - 930 g/L

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: Stable under normal conditions.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use. Product will not undergo hazardous polymerization.

Conditions to avoid: Exposure to sunlight. Heat, flames and sparks. contact with incompatible materials

Incompatible materials: Oxidizing agents Strong acids and strong bases

Hazardous decomposition products: Combustion will generate: oxides of carbon oxides of sulfur Nitrogen oxides (NOx) Aldehydes phenols acrid smoke and irritating fumes

11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

Acute oral toxicity

Product test data not available. Refer to component data.

Acute dermal toxicity

Product test data not available. Refer to component data.

Acute inhalation toxicity

Product test data not available. Refer to component data.

Skin corrosion/irritation

Product test data not available. Refer to component data.

Serious eye damage/eye irritation

Product test data not available. Refer to component data.

Sensitization

Product test data not available. Refer to component data.

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:

Electronic grade propylene glycol monomethyl ether acetate

Acute oral toxicity

Observations in animals include: Lethargy. LD50, Rat, > 5,000 mg/kg

Acute dermal toxicity

LD50, Rabbit, > 5,000 mg/kg

Acute inhalation toxicity

LC0, Rat, 6 Hour, vapour, > 23.5 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation

Prolonged contact is essentially nonirritating to skin.

Repeated contact may cause skin irritation with local redness.

Serious eye damage/eye irritation

May cause pain disproportionate to the level of irritation to eye tissues.
May cause slight eye irritation.
May cause slight corneal injury.

Sensitization

For skin sensitization:
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause drowsiness or dizziness.
Route of Exposure: Oral
Target Organs: Central nervous system

Specific Target Organ Systemic Toxicity (Repeated Exposure)

In animals, effects have been reported on the following organs:
Kidney.
Liver.
Nasal tissue.

Carcinogenicity

Similar material(s) did not cause cancer in laboratory animals.

Teratogenicity

Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Reproductive toxicity

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

Mutagenicity

In vitro genetic toxicity studies were negative.

Aspiration Hazard

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

Mixed cresol novolak resin

Acute oral toxicity

Single dose oral LD50 has not been determined.

Acute dermal toxicity

The dermal LD50 has not been determined.

Acute inhalation toxicity

The LC50 has not been determined.

Diazo Photoactive Compound

Acute oral toxicity

Single dose oral LD50 has not been determined.

Acute dermal toxicity

The dermal LD50 has not been determined.

Acute inhalation toxicity

The LC50 has not been determined.

Skin corrosion/irritation

Essentially nonirritating to skin.

Serious eye damage/eye irritation

Essentially nonirritating to eyes.

Sensitization

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

No relevant data found.

Carcinogenicity

No relevant data found.

Teratogenicity

No relevant data found.

Reproductive toxicity

No relevant data found.

Mutagenicity

No relevant data found.

Aspiration Hazard

No aspiration toxicity classification

Fluorinated Surfactant

Acute oral toxicity

LD50, Rat, > 2,000 mg/kg

Acute dermal toxicity

LD50, Rabbit, > 2,000 mg/kg

Acute inhalation toxicity

The LC50 has not been determined.

Skin corrosion/irritation

No relevant data found.

Serious eye damage/eye irritation

No relevant data found.

Sensitization

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

No relevant data found.

Carcinogenicity

No relevant data found.

Teratogenicity

No relevant data found.

Reproductive toxicity

No relevant data found.

Mutagenicity

No relevant data found.

Aspiration Hazard

No aspiration toxicity classification

Methoxy-1-propanol acetate

Acute oral toxicity

LD50, Rat, > 5,000 mg/kg

Acute dermal toxicity

LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

LC50, Rabbit, 4 Hour, vapour, > 2.46 mg/l

Skin corrosion/irritation

Essentially nonirritating to skin.

Serious eye damage/eye irritation

May cause slight eye irritation.

Sensitization

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

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)

Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

Carcinogenicity

No relevant data found.

Teratogenicity

Has caused birth defects in laboratory animals at doses nontoxic to the mother.

Reproductive toxicity

No relevant data found.

Mutagenicity

No relevant data found.

Aspiration Hazard

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

Cresol

Acute oral toxicity

Typical for this family of materials. LD50, Rat, 100 - 300 mg/kg

Acute dermal toxicity

Typical for this family of materials. LD50, Rabbit, 300 - 1,000 mg/kg

Acute inhalation toxicity

Typical for this family of materials. LC50, Rat, 8 Hour, vapour, 35.38 mg/l

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 pain disproportionate to the level of irritation to eye tissues.

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

Sensitization

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

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)

May cause central nervous system effects.
Excessive exposure may cause neurologic signs and symptoms.
Symptoms may include convulsions or seizures.
In animals, effects have been reported on the following organs:
Blood-forming organs (Bone marrow & Spleen).
Bone marrow.
Spleen.
Female reproductive organs.
Gastrointestinal tract.
Kidney.
Liver.

Teratogenicity

Did not cause birth defects in laboratory animals. 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.

Mutagenicity

In vitro genetic toxicity studies were negative in some cases and positive in other cases.
Animal genetic toxicity studies were negative.

Aspiration Hazard

May be harmful if swallowed and enters airways.

1,4-Dioxane

Acute oral toxicity

LD50, Rat, > 5,000 mg/kg

Acute dermal toxicity

LD50, Rabbit, > 7,000 mg/kg

Acute inhalation toxicity

Prolonged excessive exposure may cause serious adverse effects, even death. May cause central nervous system effects. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. May cause pulmonary edema (fluid in the lungs.)

LC50, Rat, 4 Hour, vapour, 51.3 mg/l

Lethal Dose, Humans, 470 ppm Estimated.

Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.
May cause drying and flaking of the skin.
Prolonged contact may cause skin irritation with local redness.

Serious eye damage/eye irritation

May cause slight eye irritation.
May cause slight corneal injury.

Vapor may cause eye irritation experienced as mild discomfort and redness.

Sensitization

For skin sensitization:

No relevant information found.

For respiratory sensitization:

No relevant information found.

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:

Liver.

Kidney.

Nasal tissue.

May cause central nervous system effects.

Carcinogenicity

Human epidemiology studies have shown no indication that exposures to 1,4-dioxane in industrial situations have caused an increased incidence of tumors even though it has been shown to cause cancer in some laboratory animals.

Teratogenicity

Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

Reproductive toxicity

Limited data in laboratory animals suggest that the material does not affect reproduction.

Mutagenicity

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

Aspiration Hazard

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

Carcinogenicity

Not considered carcinogenic by NTP, IARC, and OSHA

12. ECOLOGICAL INFORMATION

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

Toxicity

Electronic grade propylene glycol monomethyl ether acetate

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, Oncorhynchus mykiss (rainbow trout), 96 Hour, 134 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 408 mg/l, Method Not Specified.

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (microalgae), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 201 or Equivalent

Mixed cresol novolak resin

Acute toxicity to fish

No relevant data found.

Diazo Photoactive Compound

Acute toxicity to fish

No relevant data found.

Fluorinated Surfactant

Acute toxicity to fish

No relevant data found.

Methoxy-1-propanol acetate

Acute toxicity to fish

No relevant data found.

Cresol

Acute toxicity to fish

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, 7.5 mg/l

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), 48 Hour, 4.9 mg/l

Toxicity to bacteria

EC50, activated sludge, 458 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), 21 d, number of offspring, > 1 mg/l

1,4-Dioxane

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, Pimephales promelas (fathead minnow), static test, 96 Hour, 13,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 24 Hour, 8,450 mg/l, OECD Test Guideline 202 or Equivalent

Persistence and degradability

Electronic grade propylene glycol monomethyl ether acetate

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

10-day Window: Pass

Biodegradation: 83 %

Exposure time: 28 d

Method: OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable

Biodegradation: 100 %

Exposure time: 28 d

Method: OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 1.82 mg/mg

Mixed cresol novolak resin

Biodegradability: No relevant data found.

Diazo Photoactive Compound

Biodegradability: No relevant data found.

Fluorinated Surfactant

Biodegradability: No relevant data found.

Methoxy-1-propanol acetate

Biodegradability: No relevant data found.

Cresol

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

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	1.40 mg/mg
10 d	2.02 mg/mg
20 d	2.06 mg/mg

1,4-Dioxane

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: Not applicable

Biodegradation: 29 %

Exposure time: 28 d

Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 1.82 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	20 %
10 d	23 %
20 d	30 %

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitizer: OH radicals

Atmospheric half-life: 0.382 d

Method: Estimated.

Bioaccumulative potential

Electronic grade propylene glycol monomethyl ether acetate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 1.2 Measured

Mixed cresol novolak resin

Bioaccumulation: No relevant data found.

Fluorinated Surfactant

Bioaccumulation: No relevant data found.

Methoxy-1-propanol acetate

Bioaccumulation: No relevant data found.

Cresol

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 1.95 Calculated.

Bioconcentration factor (BCF): < 100 Fish Measured

1,4-Dioxane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -0.27 Measured

Bioconcentration factor (BCF): 0.2 - 0.6 Cyprinus carpio (Carp) 42 d

Mobility in soil

Electronic grade propylene glycol monomethyl ether acetate

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

Partition coefficient (Koc): 1.7 Estimated.

Mixed cresol novolak resin

No relevant data found.

Diazo Photoactive Compound

No relevant data found.

Fluorinated Surfactant

No relevant data found.

Methoxy-1-propanol acetate

No relevant data found.

Cresol

No relevant data found.

1,4-Dioxane

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

Partition coefficient (Koc): 1.23 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: Dispose in accordance with all local, state (provincial), and federal regulations. Incineration is the recommended method of disposal for containers. Under RCRA, it is the responsibility of the product's user to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because the product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

Treatment and disposal methods of used 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

Not regulated per 49CFR 173.150(f)(2)

Classification for SEA transport (IMO-IMDG):

Proper shipping name	RESIN SOLUTION
UN number	UN 1866
Class	3
Packing group	III
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	Resin solution
UN number	UN 1866
Class	3
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

Immediate (acute) Health Hazard
Delayed (chronic) Health Hazard
Fire Hazard

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.

California (Proposition 65)

This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Hazard Rating System

NFPA

Health	Fire	Reactivity
2	2	0

Revision

Identification Number: 101089788 / A776 / Issue Date: 01/16/2017 / Version: 3.0

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

Date of first issue: 03/18/2015

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Dow IHG	Dow Industrial Hygiene Guideline
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
SKIN	Absorbed via skin
STEL	Short term exposure limit
TWA	Time weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

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 9, LLC 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.