

**9912B MICROMAX™ CONDUCTOR PASTE**

Version	Revision Date:	SDS Number:	Date of last issue: 04-12-2024
8.0	08-13-2025	300000000931	Date of first issue: 01-29-2024

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**SECTION 1. IDENTIFICATION**

Product name : 9912B MICROMAX™ CONDUCTOR PASTE

Product code : 000000000027046712

**Manufacturer or supplier's details**

Company name of supplier : Celanese Ltd. Irving Texas

Address : 222 West Las Colinas Boulevard Suite 900N  
Irving TX 75039

Telephone : '+1 972-443-4000

Emergency telephone number : DOMESTIC NORTH AMERICA: 800-424-9300  
INTERNATIONAL, CALL +1 703-527-3887 (collect calls accepted)

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

Recommended use : For industrial use only.  
Paste for electronic industry

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**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Skin irritation : Category 2

Eye irritation : Category 2A

Reproductive toxicity : Category 2

**Other hazards**

None known.

**GHS label elements**

Hazard pictograms :



Signal word : Warning

Hazard statements : H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H361 Suspected of damaging fertility or the unborn child.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.

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P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ eye protection/ face protection.  
P280 Wear protective gloves, protective clothing, eye protection and face protection.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.

**Storage:**

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
Silver Powder (particle diameter >100 nm <1mm)	7440-22-4	>= 60 - < 80
Terpineol	8000-41-7	>= 10 - < 30
Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol	25265-77-4	>= 5 - < 10
Rhodium tris(2-ethylhexanoate)	20845-92-5	>= 0.1 - < 1

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**SECTION 4. FIRST AID MEASURES**

If inhaled : If inhaled, remove to fresh air.  
If breathing is difficult, give oxygen.  
If not breathing, give artificial respiration.  
Get medical attention.

In case of skin contact : Wash off with soap and water.  
Get medical attention if irritation develops and persists.

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- Wash contaminated clothing before re-use.
- In case of eye contact : Immediately flush eyes for at least 15 minutes. Get medical attention.
- If swallowed : If swallowed  
Rinse mouth with water.  
Call a physician or poison control centre immediately.  
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
- Most important symptoms and effects, both acute and delayed : Causes skin irritation.  
Causes serious eye irritation.  
Suspected of damaging fertility or the unborn child.

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**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Dry sand  
Dry chemical  
Alcohol-resistant foam
- Specific hazards during firefighting : Hazardous decomposition products formed under fire conditions.  
(see also section 10)  
Avoid breathing decomposition products.
- Further information : Evacuate personnel to safe areas.  
Stop spill/release if it can be done with minimal risk.  
Do not allow run-off from fire fighting to enter drains or water courses.
- Special protective equipment for firefighters : Exposure to decomposition products may be a hazard to health.  
Wear self-contained breathing apparatus for firefighting if necessary.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Avoid contact with skin, eyes and clothing.  
Ensure adequate ventilation.  
Wear suitable protective equipment.  
Dispose of in accordance with local regulations.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Prevent product from entering drains.  
Clean contaminated floors and objects thoroughly while observing environmental regulations.

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Methods and materials for containment and cleaning up : Contain spill.  
Soak up with inert absorbent material.  
Collect and contain contaminated absorbent and dike material for disposal.  
Keep in suitable, closed containers for disposal.  
Ventilate the area.  
Clean contaminated surface thoroughly.

**SECTION 7. HANDLING AND STORAGE**

Advice on protection against fire and explosion : Keep away from heat and sources of ignition.  
Avoid formation of aerosol.

Advice on safe handling : Avoid breathing vapours or mist.  
Keep away from heat and flame.  
Do not use in areas without adequate ventilation.

Conditions for safe storage : Store at room temperature in the original container.  
Keep away from sources of ignition - No smoking.  
Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.  
Keep container closed when not in use.  
Do not reuse empty container.

Further information on storage stability : Stable under normal conditions.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Silver Powder (particle diameter >100 nm <1mm)	7440-22-4	TWA (Dust and fume)	0.1 mg/m3	ACGIH
		TWA (Dust)	0.01 mg/m3	NIOSH REL
		TWA	0.01 mg/m3	OSHA P0
		TWA	0.01 mg/m3 (Silver)	OSHA Z-1

**Engineering measures** : Local exhaust or a laboratory hood should be used when handling the materials.  
Maintain air concentrations below occupational exposure standards.

**Personal protective equipment**

Respiratory protection : Provide adequate ventilation.  
No personal respiratory protective equipment normally required.  
Where there is potential for airborne exposures in excess of

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applicable limits, wear approved respiratory protection with dust/mist cartridge.

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Consult the respirator manufacturer to determine the appropriate type of equipment for a given application.

Observe respirator use limitations specified by the manufacturer.

Persons performing maintenance or repairs on exhaust system equipment (e.g. ducts) may need to use respirators and protective clothing to prevent exposure to any accumulated residues.

**Hand protection**

Material

: Impervious gloves

Remarks

: Gloves must be inspected prior to use. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The exact break through time can be obtained from the protective glove producer and this has to be observed. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

**Eye protection**

: Wear safety glasses with side shields.

**Skin and body protection**

: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.  
Lightweight protective clothing  
Safety shoes

**Hygiene measures**

: Handle in accordance with good industrial hygiene and safety practice.  
Avoid contact with skin, eyes and clothing.  
Contaminated work clothing should not be allowed out of the workplace.  
Remove contaminated clothing and protective equipment before entering eating areas.  
Remove and wash contaminated clothing before re-use.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance

: paste

Colour

: grey

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Odour	: pine
pH	: No data available Substance/mixture is non-polar/aprotic.
Flash point	: 201 °F / 94 °C Method: Setaflash closed cup - SCC
Density	: 3.17 g/cm <sup>3</sup> (68 °F / 20 °C)
Solubility(ies)	
Water solubility	: insoluble (68 °F / 20 °C)
Viscosity	
Viscosity, dynamic	: 10 - 100 Pa.s (77 °F / 25 °C)
Viscosity, kinematic	: > 20.5 mm <sup>2</sup> /s (104 °F / 40 °C) estimated

**SECTION 10. STABILITY AND REACTIVITY**

Possibility of hazardous reactions	: Polymerization will not occur. Stable at normal temperatures and storage conditions.
Conditions to avoid	: None reasonably foreseeable.
Incompatible materials	: Acids
Hazardous decomposition products	: No decomposition if stored and applied as directed.  Under fire conditions:  Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Metal oxides

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity**

Not classified due to lack of data.

**Product:**

Acute oral toxicity	: Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
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**Components:****Silver Powder (particle diameter >100 nm <1mm):**

Acute oral toxicity	: LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 401 Assessment: The substance or mixture has no acute oral
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## toxicity

- Acute inhalation toxicity : LC50 (Rat): > 5.16 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 436  
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity
- Terpineol:**
- Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity
- Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

**Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol:**

- Acute oral toxicity : LD50 (Rat): 6,500 mg/kg
- Acute dermal toxicity : LD50 (Rabbit): > 15,200 mg/kg

**Rhodium tris(2-ethylhexanoate):**

- Acute oral toxicity : LD50 (Rat): 2,043 mg/kg  
Method: OECD Test Guideline 401  
Remarks: Gastrointestinal effects  
Information given is based on data obtained from similar substances.
- Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: Skin effects  
Information given is based on data obtained from similar substances.

**Skin corrosion/irritation**

Causes skin irritation.

**Components:****Silver Powder (particle diameter >100 nm <1mm):**

- Species : Rabbit
- Assessment : No skin irritation

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Method	:	OECD Test Guideline 404
Result	:	Slight or no skin irritation
Remarks	:	Minimal effects that do not meet the threshold for classification.

**Terpineol:**

Species	:	Rabbit
Assessment	:	Irritating to skin.
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

**Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol:**

Species	:	Rabbit
Assessment	:	Irritating to skin.
Result	:	Mild skin irritation

**Rhodium tris(2-ethylhexanoate):**

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
Remarks	:	Information given is based on data obtained from similar substances.

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Components:****Silver Powder (particle diameter >100 nm <1mm):**

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405

**Terpineol:**

Species	:	animals (unspecified species)
Result	:	Eye irritation
Assessment	:	Irritating to eyes.
Method	:	OECD Test Guideline 405

**Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol:**

Species	:	Rabbit
Result	:	Mild eye irritation
Assessment	:	Irritating to eyes.
Method	:	OECD Test Guideline 405

**Rhodium tris(2-ethylhexanoate):**

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	No eye irritation



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Method	:	OECD Test Guideline 405
Remarks	:	Information given is based on data obtained from similar substances.

**Respiratory or skin sensitisation****Skin sensitisation**

Not classified due to lack of data.

**Respiratory sensitisation**

Not classified due to lack of data.

**Components:****Silver Powder (particle diameter >100 nm <1mm):**

Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	US EPA Test Guideline OPPTS 870.2600
Result	:	Does not cause skin sensitisation.
Remarks	:	Information given is based on data obtained from similar substances.

**Terpineol:**

Test Type	:	Maximisation Test
Species	:	Guinea pig
Assessment	:	Not a skin sensitizer.
Method	:	OECD Test Guideline 406
Result	:	Did not cause sensitisation on laboratory animals.

**Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol:**

Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	Directive 67/548/EEC, Annex V, B.6.
Result	:	Does not cause skin sensitisation.

**Rhodium tris(2-ethylhexanoate):**

Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
Remarks	:	Information given is based on data obtained from similar substances.

**Germ cell mutagenicity**

Not classified due to lack of data.

**Components:****Terpineol:**

Germ cell mutagenicity - Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects., Evidence suggests this substance does not cause genetic damage in animals.
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**Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol:**

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects., Tests on bacterial or mammalian cell cultures did not show mutagenic effects., Information given is based on data obtained from similar substances.

**Rhodium tris(2-ethylhexanoate):**

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects., Tests on bacterial or mammalian cell cultures did not show mutagenic effects., Information given is based on data obtained from similar substances.

**Carcinogenicity**

Not classified due to lack of data.

**Components:****Terpineol:**

Carcinogenicity - Assessment : Not classifiable as a human carcinogen., Overall weight of evidence indicates that the substance is not carcinogenic.

**IARC** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Reproductive toxicity**

Suspected of damaging fertility or the unborn child.

**Components:****Terpineol:**

Reproductive toxicity - Assessment : Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity.

**Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol:**

Reproductive toxicity - Assessment : No toxicity to reproduction, Animal testing showed no reproductive toxicity.  
Animal testing showed no developmental toxicity.

**Rhodium tris(2-ethylhexanoate):**

Reproductive toxicity - Assessment : Suspected human reproductive toxicant, Animal testing showed effects on reproduction at levels below those causing parental toxicity that included:, Reduced fertility, Abnormal sperm, Reduced offspring survival, Information given is based on data obtained from similar substances.  
Animal testing showed effects on embryo-foetal development at levels below those causing maternal toxicity., Information given is based on data obtained from similar substances.

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**STOT - single exposure**

Not classified due to lack of data.

**Components:****Terpineol:**

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

**Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol:**

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

**Rhodium tris(2-ethylhexanoate):**

Exposure routes : Ingestion, Inhalation, Skin contact  
Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

**STOT - repeated exposure**

Not classified due to lack of data.

**Components:****Terpineol:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Rhodium tris(2-ethylhexanoate):**

Exposure routes : Ingestion  
Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Repeated dose toxicity****Components:****Terpineol:**

Species : Rat  
Application Route : Oral  
Remarks : No toxicologically significant effects were found.

**Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol:**

Species : Rat  
Application Route : Oral  
Remarks : No toxicologically significant effects were found.

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**Rhodium tris(2-ethylhexanoate):**

Species	:	Rat
NOAEL	:	300 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 d
Method	:	see user defined free text
Remarks	:	No toxicologically significant effects were found. Information given is based on data obtained from similar substances.

**Aspiration toxicity**

Not classified due to lack of data.

**Components:****Silver Powder (particle diameter >100 nm <1mm):**

No aspiration toxicity classification

**Rhodium tris(2-ethylhexanoate):**

No aspiration toxicity classification

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****Silver Powder (particle diameter >100 nm <1mm):**

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 0.016 mg/l Exposure time: 96 h Remarks: Information given is based on data obtained from similar substances.
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Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.0125 mg/l Exposure time: 48 h Remarks: Information given is based on data obtained from similar substances.
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Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 0.19 mg/l Exposure time: 96 h Remarks: Information given is based on data obtained from similar substances.
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EC10 (Pseudokirchneriella subcapitata (green algae)): 0.03462 mg/l  
Exposure time: 72 h  
Remarks: Information given is based on data obtained from similar substances.

Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 0.0012 mg/l Exposure time: 32 d Remarks: Information given is based on data obtained from similar substances.
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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.00327 mg/l  
Exposure time: 21 d  
Remarks: Information given is based on data obtained from similar substances.

**Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

**Terpineol:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 62 - 80 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 73 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 68 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

EbC50 (Pseudokirchneriella subcapitata (green algae)): 17 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

**Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 33 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 147.8 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 15 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 7.28 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

**Rhodium tris(2-ethylhexanoate):****Ecotoxicology Assessment**

Acute aquatic toxicity : Toxic effects cannot be excluded

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**Persistence and degradability****Components:****Terpineol:**

Biodegradability : Biodegradation: 80 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301  
Remarks: Readily biodegradable.

**Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol:**

Biodegradability : Result: Biodegradable  
Method: OECD Test Guideline 301

**Rhodium tris(2-ethylhexanoate):**

Biodegradability : Result: rapidly biodegradable  
Method: OECD Test Guideline 301  
Remarks: Information given is based on data obtained from similar substances.

**Bioaccumulative potential****Components:****Silver Powder (particle diameter >100 nm <1mm):**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.  
Information given is based on data obtained from similar substances.

Partition coefficient: n-octanol/water : Remarks: Not applicable

**Terpineol:**

Bioaccumulation : Bioconcentration factor (BCF): 24.13  
Remarks: Bioaccumulation is unlikely.

**Isobutyric acid, monoester with 2,2,4-trimethylpentane-1,3-diol:**

Partition coefficient: n-octanol/water : log Pow: 3.2  
pH: 7

**Mobility in soil**

No data available

**Other adverse effects****Product:**

Additional ecological information : No data is available on the product itself.

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : If recycling is not practicable, dispose of in compliance with local regulations.  
Do not reuse empty container. Never place unused product down any indoor or out door drain.  
Contaminated/not cleaned containers should be treated/handled like product waste. Dispose of container properly. Refer to applicable Local, State/Provincial, and Federal Regulations, as well as industry Standards.

**SECTION 14. TRANSPORT INFORMATION****International Regulations****UNRTDG**

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Silver, Glass frits)  
Class : 9  
Packing group : III  
Labels : 9  
Environmentally hazardous : no

**IATA-DGR**

UN/ID No. : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Silver, Glass frits)  
Class : 9  
Packing group : III  
Labels : Miscellaneous  
Packing instruction (cargo aircraft) : 964  
Packing instruction (passenger aircraft) : 964

**IMDG-Code**

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Silver, Glass frits)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : no

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

**National Regulations****49 CFR**

Not regulated as a dangerous good

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**Special precautions for user**

Remarks : Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA special provision A197, and ADR/RID special provision 375.

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

**SECTION 15. REGULATORY INFORMATION****SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Reproductive toxicity  
Skin corrosion or irritation  
Serious eye damage or eye irritation

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

Silver Powder 7440-22-4  
(particle diameter  
>100 nm <1mm)

Silver 7440-22-4

**California Prop. 65**

WARNING: This product can expose you to chemicals including Naphthalene, 1,4-Dioxane, Acetaldehyde, which is/are known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**TSCA list**

In compliance with TSCA-active Inventory requirements for commercial purposes.

No substances are subject to a Significant New Use Rule.

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:

Zinc 7440-66-6

**SECTION 16. OTHER INFORMATION****Full text of other abbreviations**

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated)



**9912B MICROMAX™ CONDUCTOR PASTE**

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values)  
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1  
Limits for Air Contaminants  
ACGIH / TWA : 8-hour, time-weighted average  
NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour  
workday during a 40-hour workweek  
OSHA P0 / TWA : 8-hour time weighted average  
OSHA Z-1 / TWA : 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; 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; TECI - Thailand Existing Chemicals 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

Revision Date : 08-13-2025

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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