

**1029**

Version 8.0

Issue Date : 11/18/2022  
Revision Date : 05/05/2025

Ref. 130000001634

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : 1029  
Product Use : For industrial use only., Paste for electronic industry

Restrictions on use : Do not use product for anything outside of the above specified uses.  
Manufacturer/Supplier : Celanese Sales U.S. Ltd.  
222 West Las Colinas Boulevard Suite 900N  
Irving, TX 75039

Product Information : +1 972-443-4000  
Transport Emergency : HazCom@celanese.com

**SECTION 2. HAZARDS IDENTIFICATION**

Not classified as a hazardous substance or mixture according to the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard 2012.

**Other hazards**

No applicable data available.

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

Component	CAS-No.	Concentration
Silver powder	7440-22-4	80 - 90 %
Terpineol	8000-41-7	1 - 10 %
Cobalt Compound	1308-06-1	0.1 - 1 %

This product does not contain any components that require disclosure according to OSHA Hazard Communication Standard 2012.

**1029**

Version 8.0

Issue Date : 11/18/2022  
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Ref. 130000001634

**SECTION 4. FIRST AID MEASURES**

General advice	: No applicable data available.
Inhalation	: If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin contact	: Wash off with soap and water. Get medical attention if irritation develops and persists. Wash contaminated clothing before re-use.
Eye contact	: Immediately flush eyes for at least 15 minutes. Get medical attention.
Ingestion	: 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/effects, acute and delayed	: No applicable data available.
Protection of first-aiders	: No applicable data available.
Notes to physician	: No applicable data available.

**SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, Dry chemical, Carbon dioxide (CO <sub>2</sub> )
Unsuitable extinguishing media	: No applicable data available.
Specific hazards	: Hazardous decomposition products formed under fire conditions. (see also section 10) Avoid breathing decomposition products.
Special protective equipment for firefighters	: Exposure to decomposition products may be a hazard to health. Wear self-contained breathing apparatus for firefighting if necessary.

**1029**

Version 8.0

Issue Date : 11/18/2022  
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Ref. 130000001634

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.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel) : Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Wear suitable protective equipment.

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.

Spill Cleanup : 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.

Accidental Release Measures : Dispose of in accordance with local regulations.

**SECTION 7. HANDLING AND STORAGE**

Handling (Personnel) : Avoid inhalation, ingestion and contact with skin and eyes. Do not use in areas without adequate ventilation. Keep container closed when not in use. Take care to avoid waste and spillage when weighing, loading and mixing the product.  
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.

Handling (Physical Aspects) : Avoid formation of dust and aerosols. Keep away from heat and sources of ignition. This product contains less than 3 weight percent platinum metal. Experience has shown that similar products containing greater than 3 weight

**1029**

Version 8.0

Issue Date : 11/18/2022  
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Ref. 130000001634

percent platinum metal are incompatible with acetone, methanol, isopropanol, other alcohols or flammable solvents. Fire or smoldering may occur where incompatible solvents come into contact with the higher percentage product residues deposited on discarded clean wipes, safety gloves, etc. Consult a safety professional for your specific process and waste disposal operations.

Dust explosion class : No applicable data available.  
Storage : Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. 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.  
Stable under normal conditions.

Storage period : No applicable data available.

Storage temperature : No applicable data available.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Engineering controls : 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 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  
Additional protection: 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

**1029**

Version 8.0

Issue Date : 11/18/2022  
Revision Date : 05/05/2025

Ref. 130000001634

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

## Exposure Guidelines

## Exposure Limit Values

This product does not contain any exposure limits that require disclosure according to OSHA Hazard Communication Standard 2012.

Silver powder			
TLV	(ACGIH)	0.1 mg/m3	TWA Dust and fume
REL	(NIOSH)	0.01 mg/m3	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek Dust
PEL (Permissible Exposure Limit)	(OSHA)	0.01 mg/m3	TWA

Terpineol			
No applicable data available.			

Cobalt Compound			
TLV	(ACGIH)	0.02 mg/m3	TWA Cobalt

## Biological Exposure Indices

Cobalt Compound			
BEI	(ACGIH)	15 µg/l	Cobalt/Urine

**1029**

Version 8.0

Issue Date : 11/18/2022  
Revision Date : 05/05/2025

Ref. 130000001634

			End of shift at end of workweek
BEI	(ACGIH)		Cobalt/Urine
			End of shift at end of workweek

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

## Appearance

Physical state : liquid  
Form : viscous liquid  
Color : light grey

Odor : aromatic

Odor threshold : No applicable data available.

pH : No applicable data available.

Melting point/range : No applicable data available.

Boiling point/boiling range : No applicable data available.

Flash point : 100 °C  
Method: closed cup

Evaporation rate : No applicable data available.

Flammability (solid, gas) : No applicable data available.

Upper explosion limit : No applicable data available.

Lower explosion limit : No applicable data available.

Vapour Pressure : No applicable data available.

Vapour density : No applicable data available.

Density : 4 g/cm3

**1029**

Version 8.0

Issue Date : 11/18/2022 Ref. 130000001634  
Revision Date : 05/05/2025

Specific gravity (Relative density) : No applicable data available.

Water solubility : at 20 °C (68 °F)  
slightly soluble

Solubility(ies) : No applicable data available.

Partition coefficient: n-octanol/water : No applicable data available.

Auto-ignition temperature : No applicable data available.

Decomposition temperature : No applicable data available.

Viscosity, kinematic : > 20.5 mm<sup>2</sup>/s at 40 °C (104 °F)  
estimated

Viscosity, dynamic : > 100 Pa.s at 25 °C (77 °F)

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : May react with flammable solvents.

Chemical stability : The product is chemically stable under recommended conditions of storage, use and temperature.  
Stable at normal temperatures and storage conditions.

Possibility of hazardous reactions : Polymerization will not occur. Fire or smoldering may occur if the product, or product residues, come into contact with flammable solvents such as acetone, methanol and other alcohols.

Conditions to avoid : Keep away from open flames, hot surfaces and sources of ignition.

Incompatible materials : Acetone Alcohols, Flammable solvents, Halogenated compounds, Strong acids and strong bases, Strong oxidizing agents, Aluminium, lithium

Hazardous decomposition products : No decomposition if stored and applied as directed.  
Under fire conditions:, Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke)., Metal oxides

**1029**

Version 8.0

Issue Date : 11/18/2022  
Revision Date : 05/05/2025

Ref. 130000001634

**SECTION 11. TOXICOLOGICAL INFORMATION****Silver powder**

- Inhalation 4 h LC50 : > 5.16 mg/l , Rat
- Dermal LD50 : > 2,000 mg/kg , Rat  
Information given is based on data obtained from similar substances.
- Oral LD50 : > 2,000 mg/kg , Rat
- Skin irritation : No skin irritation, Rabbit
- Eye irritation : No eye irritation, Rabbit
- Skin sensitization : Does not cause skin sensitisation., Guinea pig  
Information given is based on data obtained from similar substances.
- Repeated dose toxicity : Ingestion  
Rat  
- 30 d  
NOAEL: 150 mg/kg  
No toxicologically significant effects were found., Information given is based on data obtained from similar substances.
- Carcinogenicity : Weight of evidence does not support classification as a carcinogen  
Overall weight of evidence indicates that the substance is not carcinogenic.
- Mutagenicity : Weight of evidence does not support classification as a germ cell mutagen.  
Overall weight of evidence indicates that the substance is not mutagenic.  
Information given is based on data obtained from similar substances.
- Teratogenicity : Animal testing showed no developmental toxicity.  
Information given is based on data obtained from similar substances.

**Terpineol**

- Inhalation : no data available
- Inhalation :



**1029**

Version 8.0

Issue Date : 11/18/2022  
Revision Date : 05/05/2025

Ref. 130000001634

Dermal LD50	: > 2,000 mg/kg , Rabbit
Oral LD50	: > 2,000 mg/kg , Rat
Skin irritation	: Skin irritation, Rabbit
Eye irritation	: Eye irritation, animals (unspecified species)
Skin sensitization	: Did not cause sensitisation on laboratory animals., Guinea pig
Repeated dose toxicity	: Oral Rat - No toxicologically significant effects were found.
Carcinogenicity	: Not classifiable as a human carcinogen. Overall weight of evidence indicates that the substance is not carcinogenic.
Mutagenicity	: Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Evidence suggests this substance does not cause genetic damage in animals.
Reproductive toxicity	: Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity.
Cobalt Compound	
Inhalation 4 h LC50	: > 5.06 mg/l , Rat Central nervous system effects Respiratory effects
Dermal LD50	: > 2,000 mg/kg , Rat Skin effects Information given is based on data obtained from similar substances.
Oral LD50	: > 5,000 mg/kg , Rat
Skin irritation	: No skin irritation, In Vitro - Human
Eye irritation	: Slight or no eye irritation, Rabbit Minimal effects that do not meet the threshold for classification.

**1029**

Version 8.0

Issue Date : 11/18/2022  
Revision Date : 05/05/2025

Ref. 130000001634

Skin sensitization	: Does not cause skin sensitisation., Mouse  Probability or evidence of low to moderate respiratory sensitisation rate in humans, human Information given is based on data obtained from similar substances.
Repeated dose toxicity	: Ingestion Rat - 90 d NOAEL: 300 mg/kgMethod: OECD Test Guideline 408 No toxicologically significant effects were found.  Inhalation Rat - 90 d dust/mistMethod: OECD Test Guideline 413 No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., Adverse body weight effects, altered hematology, Respiratory tract irritation
Carcinogenicity	: Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.
Mutagenicity	: Animal testing did not show any mutagenic effects. Genetic damage in cultured bacterial cells was observed in some laboratory tests but not in others. Did not cause genetic damage in cultured mammalian cells. Information given is based on data obtained from similar substances.
Reproductive toxicity	: No toxicity to reproduction Animal testing showed no reproductive toxicity.
Teratogenicity	: Animal testing showed no developmental toxicity.

**Carcinogenicity**

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

**1029**

Version 8.0

Issue Date : 11/18/2022  
Revision Date : 05/05/2025

Ref. 130000001634

Material	IARC	NTP	OSHA
Cobalt Compound	2B		

**SECTION 12. ECOLOGICAL INFORMATION****Aquatic Toxicity****Silver powder**

96 h LC50	:	Fish (unspecified species) 0.107 mg/l OECD Test Guideline 203 Information given is based on data obtained from similar substances.
96 h EC50	:	Pseudokirchneriella subcapitata (green algae) 0.19 mg/l Information given is based on data obtained from similar substances.
14 d NOEC	:	Algae 0.0012 mg/l Information given is based on data obtained from similar substances.
48 h EC50	:	Ceriodaphnia dubia (water flea) 0.16 mg/l Information given is based on data obtained from similar substances.
32 d	:	NOEC Oncorhynchus mykiss (rainbow trout) 0.0012 mg/l Information given is based on data obtained from similar substances.
21 d	:	NOEC Daphnia magna (Water flea) 0.00327 mg/l Information given is based on data obtained from similar substances.

**Terpineol**

96 h LC50	:	Danio rerio (zebra fish) 62 - 80 mg/l OECD Test Guideline 203
72 h ErC50	:	Pseudokirchneriella subcapitata (green algae) 68 mg/l OECD Test Guideline 201
72 h EbC50	:	Pseudokirchneriella subcapitata (green algae) 17 mg/l OECD Test Guideline 201
48 h LC50	:	Daphnia magna (Water flea) 73 mg/l OECD Test Guideline 202

**Cobalt Compound**

96 h LC50	:	Oncorhynchus mykiss (rainbow trout) Information given is based on data obtained from similar substances.
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**1029**

Version 8.0

Issue Date : 11/18/2022  
Revision Date : 05/05/2025

Ref. 130000001634

- 72 h EC50 : Pseudokirchneriella subcapitata (green algae) OECD Test Guideline 201  
Information given is based on data obtained from similar substances.
- 72 h NOEC : Pseudokirchneriella subcapitata (green algae) OECD Test Guideline 201  
Information given is based on data obtained from similar substances.
- 48 h EC50 : Daphnia magna (Water flea) OECD Test Guideline 202  
Aquatic toxicity is unlikely due to low solubility.  
Information given is based on data obtained from similar substances.
- 81 d : NOEC Oncorhynchus mykiss (rainbow trout) OECD Test Guideline 210  
Information given is based on data obtained from similar substances.
- 21 d : NOEC Daphnia magna (Water flea) OECD Test Guideline 211  
Information given is based on data obtained from similar substances.

**Environmental Fate****Terpineol**

- Biodegradability : 80 % OECD Test Guideline 301  
Readily biodegradable.
- Bioaccumulation : Bioconcentration factor (BCF) : 24.13  
Bioaccumulation is unlikely.

**Cobalt Compound**

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

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

**SECTION 13. DISPOSAL CONSIDERATIONS**

- Waste disposal methods - Product : If recycling is not practicable, dispose of in compliance with local regulations.  
Never place unused product down any indoor or out door drain.

DO NOT MIX platinum-containing wastes with any other types of disposed materials.

**1029**

Version 8.0

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Ref. 130000001634

Waste disposal methods - Container : Do not reuse empty container.  
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.

Contaminated packaging : No applicable data available.

**SECTION 14. TRANSPORT INFORMATION**

IATA_C	UN number	: 3082
	Proper shipping name	: Environmentally hazardous substance, liquid, n.o.s. (Silver)
	Class	: 9
	Packing group	: III
IMDG	Labelling No.	: 9
	UN number	: 3082
	Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9

Not regulated as a hazardous material by DOT.

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.

**SECTION 15. REGULATORY INFORMATION**

TSCA : On the inventory, or in compliance with the inventory

**1029**

Version 8.0

Issue Date : 11/18/2022  
Revision Date : 05/05/2025

Ref. 130000001634

SARA 311/312 Hazard classification : No SARA Hazards

SARA 313 Regulated Chemical(s) : The following components are subject to reporting levels established by SARA Title III, Section 313: Silver powder, Diethylene glycol dibutyl ether, Cobalt Compound

California Prop. 65 : This product can expose you to Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**SECTION 16. OTHER INFORMATION**

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Contact person :

Wilmington, DE 19803, USA

Product Information: +1 972-443-4000 E-mail address: [HazCom@celanese.com](mailto:HazCom@celanese.com)

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.