Celanese

PE827

Version 3.0 Revision Date 2018/02/14
Document no. 130000140857 Issue Date 2023/07/14

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

Section 1 - Chemical and Enterprise Identification

Product name : PE827

Product name in English : PE827

Recommended use of the chemical and restriction on use

Recommended 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, importer, supplier

Company : Celanese (Shanghai) International Trading Co., Ltd
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Date of first preparation : 2015/06/29

Section 2 - Hazard Identification

GHS Hazard Category

Acute toxicity (Oral) : Category 5
Acute toxicity (Inhalation) : Category 4
Serious eye damage/eye irritation : Category 2A
Specific target organ toxicity - single exposure : Category 2 (Respiratory system, Central nervous system)
Specific target organ toxicity - single exposure : Category 3
Acute aquatic toxicity : Category 1
Chronic aquatic toxicity : Category 1

Endpoints which are not classified, cannot be classified or are not applicable are not shown.

Label content

Pictogram :

Signal word : Warning

Hazardous warnings	:	May be harmful if swallowed. Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness. May cause damage to organs. (Respiratory system, Central nervous system) Very toxic to aquatic life with long lasting effects.
Precautionary statements	:	**Preventive Measures:** Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/ eye protection/ face protection. **Accident Response:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or if you feel unwell: Call a POISON CENTER or doctor/ physician. Call a POISON CENTER/doctor if you feel unwell. If eye irritation persists: Get medical advice/ attention. Collect spillage. **Safe Storage:** Store in a well-ventilated place. Keep container tightly closed. Store locked up. **Waste Disposal:** Dispose of contents/ container to an approved waste disposal plant.

Main Symptom After Contact
No information available.

Section 3 - Ingredients/Composition Information

Chemical nature : Mixture

Components

Chemical name	CAS-No.	Concentration
Copper (powder)	7440-50-8	30 - 40%
Silver powder	7440-22-4	20 - 30%
Proprietary additive		20 - 30%

Section 4 - First-aid Measures

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 information available.
Protection of first-aiders	:	No information available.
Notes to physician	:	No information available.

Section 5 - Fire-fighting Measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, Dry chemical, Carbon dioxide (CO2)
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.
Specific extinguishing methods	:	No information available.
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 - Leak Emergency Treatment

Protective measures, devices and emergency treatment procedure for workers	:	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.
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.
Prevention of secondary hazards	:	No information available.

Additional advice : Dispose of in accordance with local regulations.

Section 7 - Operation Handling and Storage

Operation Handling

Technical measures/Precautions : 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.

Precautions for safe handling : Avoid formation of dust and aerosols. Keep away from heat and sources of ignition.

Storage

Suitable storage conditions : 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.

Storage period: Stable under normal conditions.

Section 8 - Exposure Control and Personal Protection

Control parameters

Applicable occupational exposure limits are listed below.

Chemical name	Occupational Exposure Limits	Regulation
Copper (powder)		
TWA (as Cu)	1 mg/m3 (Dust.)	GBZ 2.1
TWA (as Cu)	0.2 mg/m3 (Fume.)	GBZ 2.1
TWA (as Cu)	1 mg/m3 (Dust and mist.)	US ACGIH
TWA (as Cu)	0.2 mg/m3 (Fume.)	US ACGIH
Silver powder		
TWA	0.1 mg/m3 (Dust and fume.)	US ACGIH

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

Biological occupational exposure limits : No information available.

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 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 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.

Section 9 - Physical and Chemical Properties

Appearance (Physical state, form, colour, etc.)

Physical state	:	liquid
Form	:	viscous liquid
Colour	:	silver

Odour	:	slight
Odour Threshold	:	No information available.
pH	:	No information available.

Melting point/freezing point
No information available.

Boiling point, initial boiling point and boiling range
No information available.

Flash point	:	>110 °C Method: closed cup
Evaporation rate	:	No information available.
Flammability (solid, gas)	:	No information available.
Upper/lower flammability or explosive limits		
Upper explosion limit	:	No information available.
Lower explosion limit	:	No information available.
Vapour pressure	:	No information available.
Vapour density	:	No information available.
Density		
Density	:	1.7 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No information available.
Auto-ignition temperature		
No information available.		
Decomposition temperature	:	No information available.
Viscosity		
Viscosity, kinematic	:	> 20.5 mm2/s (40 °C) estimated
Molecular weight	:	No information available.

Section 10 - Stability and Reactivity

Reactivity	:	No information available.
Chemical stability	:	Stable at normal temperatures and storage conditions.
Possibility of hazardous reactions	:	Polymerization will not occur.
Conditions to avoid	:	Processing temperature: > 280°C To avoid thermal decomposition, do not overheat. Decomposition is a function of both processing temperature and time at that temperature. Decomposition can occur below the recommended processing temperature limit.
Materials to avoid	:	Acids, bases and strong oxidizing agents

Hazardous decomposition products : No decomposition if stored and applied as directed.

Hazardous thermal decomposition products:, Hydrogen fluoride, Hydrogen fluoride vapours are very toxic and cause skin and eye irritation.

Under fire conditions:, Carbon oxides, Hydrogen fluoride, phosphorous oxides

Section 11 - Toxicological Information

Acute toxicity

Oral

Copper (powder)	:	LD50/Rat: > 2,500 mg/kg The substance or mixture has no acute oral toxicity
Silver powder	:	LD50/Rat: > 2,000 mg/kg Method: OECD Test Guideline 401 The substance or mixture has no acute oral toxicity
Proprietary additive	:	LD50/Rat: 1,165 mg/kg Target Organs: Central nervous system The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects. Central nervous system effects

Inhalation

Copper (powder)	:	LC50/Rat: 2.83 mg/l Respiratory effects, Altered respiratory rate, Breathing difficulties, Laboured breathing, Central nervous system effects, Abnormal posture
Silver powder	:	LC50/4 h/Rat(dust/mist): > 5.16 mg/l Method: OECD Test Guideline 436 The substance or mixture has no acute inhalation toxicity
Proprietary additive	:	LC50/4 h/Rat(dust/mist): > 8.817 mg/l The substance or mixture has no acute inhalation toxicity

Dermal

Copper (powder)	:	LD50/Rat: > 2,000 mg/kg The substance or mixture has no acute dermal toxicity
Silver powder	:	LD50/Rat: > 2,000 mg/kg Method: OECD Test Guideline 402 The substance or mixture has no acute dermal toxicity Information given is based on data obtained from similar substances.
Proprietary additive	:	LD50/Rabbit: > 20,000 mg/kg The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Copper (powder)	:	Species: Rabbit Result: No skin irritation Classification: Not classified as irritant
Silver powder	:	Species: Rabbit Result: No skin irritation Classification: No skin irritation Method: OECD Test Guideline 404
Proprietary additive	:	Species: Rabbit Result: No skin irritation Classification: Not classified as irritant Method: OECD Test Guideline 404

Serious eye damage/eye irritation

Copper (powder)	:	Species: Rabbit Result: No eye irritation Classification: Not classified as irritant
Silver powder	:	Species: Rabbit Result: No eye irritation Classification: No eye irritation Method: OECD Test Guideline 405
Proprietary additive	:	Species: Rabbit Result: Eye irritation Classification: Irritating to eyes. Method: OECD Test Guideline 405

Respiratory or skin sensitisation

Copper (powder)	:	Maximisation Test Species: Guinea pig Result: Did not cause sensitisation on laboratory animals. Classification: Not a skin sensitizer.
Silver powder	:	Species: Guinea pig Result: Does not cause skin sensitisation. Classification: Does not cause skin sensitisation. Method: OECD Test Guideline 406 Information given is based on data obtained from similar substances.
Proprietary additive	:	Species: Mouse Result: Does not cause skin sensitisation. Classification: Does not cause skin sensitisation. Method: OECD Test Guideline 429

Germ cell mutagenicity

Copper (powder)	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects.
Silver powder	:	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.
Proprietary additive	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Copper (powder)	:	Not classifiable as a human carcinogen. Overall weight of evidence indicates that the substance is not carcinogenic.
Silver powder	:	Weight of evidence does not support classification as a carcinogen Overall weight of evidence indicates that the substance is not carcinogenic.

Reproductive toxicity

Copper (powder)	:	Reproductive toxicity: No toxicity to reproduction Animal testing showed no reproductive toxicity. Teratogenicity: Evidence suggests the substance is not a developmental toxin in animals.

Silver powder	:	Teratogenicity: Animal testing showed no developmental toxicity. Information given is based on data obtained from similar substances.
Proprietary additive	:	Reproductive toxicity: No toxicity to reproduction Animal testing showed no reproductive toxicity. Teratogenicity: Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Specific Target Organ Toxicity

Specific target organ toxicity - single exposure

Copper (powder)	:	Likely route of exposure: Inhalation Target Organs: Respiratory system, Central nervous system The substance or mixture is classified as specific target organ toxicant, single exposure, category 2.
Silver powder	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.
Proprietary additive	:	Target Organs: Central nervous system The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

Specific target organ toxicity - repeated exposure

Copper (powder)	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Silver powder	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Proprietary additive	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Copper (powder)	:	No aspiration toxicity classification
Silver powder	:	No aspiration toxicity classification

Other

Copper (powder)	:	Repeated dose toxicity: Oral - feed/multiple species No toxicologically significant effects were found.
Silver powder	:	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.
Proprietary additive	:	Repeated dose toxicity: Oral/Rat NOAEL: 1,000 mg/kg No toxicologically significant effects were found.

Section 12 - Ecological Information

Ecotoxicity effects

Acute and prolonged toxicity to fish

Copper (powder)	:	LC50/96 h/Oncorhynchus mykiss (rainbow trout): 0.0028 mg/l
Silver powder	:	LC50/96 h/Fish (unspecified species): 0.107 mg/l Method: OECD Test Guideline 203 Information given is based on data obtained from similar substances.
Proprietary additive	:	LC50/96 h/Leuciscus idus (Golden orfe): > 100 mg/l

Toxicity to aquatic plants

Silver powder	:	EC50/96 h/Pseudokirchneriella subcapitata (green algae): 0.19 mg/l Information given is based on data obtained from similar substances. NOEC/14 d/Algae: 0.0012 mg/l Information given is based on data obtained from similar substances.
Proprietary additive	:	ErC50/72 h/Desmodesmus subspicatus (green algae): 901 mg/l

Acute toxicity to aquatic invertebrates

Silver powder	:	EC50/48 h/Ceriodaphnia dubia (water flea): 0.16 mg/l Information given is based on data obtained from similar substances.
Proprietary additive	:	EC50/48 h/Daphnia magna (Water flea): > 100 mg/l Method: OECD Test Guideline 202

Chronic toxicity to fish

Silver powder	:	NOEC/32 d/Oncorhynchus mykiss (rainbow trout): 0.0012 mg/l Information given is based on data obtained from similar substances.

Chronic toxicity to aquatic Invertebrates

Silver powder	:	NOEC/21 d/Daphnia magna (Water flea): 0.00327 mg/l Information given is based on data obtained from similar substances.
Proprietary additive	:	NOEC/21 d/Daphnia magna (Water flea): 31.6 mg/l Method: OECD Test Guideline 211

Persistence and degradability

Silver powder	:	Result: Not biodegradable
Proprietary additive	:	Result: Biodegradable

Bioaccumulation

No information available.

Mobility in soil

No information available.

Other adverse effects

No information available.

Section 13 - Waste Disposal

Waste disposal methods : 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 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 : Dispose of in accordance with local regulations.

Section 14 - Transport Information

China Dangerous Goods Regulation

UN number	:	3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver, Copper powder)
Class	:	9
Packing group	:	III

IMDG

UN number	:	3082
UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver, Copper powder)
Transport hazard class	:	9
Packing group	:	III
Marine pollutant	:	yes

IATA

UN number	:	3082
UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver, Copper powder)
Transport hazard class	:	9
Packing group	:	III

Matters needing attention for transportation : Not applicable

Section 15 - Regulatory Information

Regulation on the Safety Management of Hazardous Chemicals
Production Safety Law of the People's Republic of China
Law of the People's Republic of China on Prevention and Treatment of Occupational Disease
Environmental Protection Law of the People's Republic of China
Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution
Marine Environment Protection Law of the People's Republic of China
Fire Protection Law of the People's Republic of China
Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes
Occupational exposure limits for hazardous agents in the workplace Part 1 Chemical hazardous agents (GBZ2.1)
Occupational exposure limits for hazardous agents in the workplace Part 2 Physical agents (GBZ2.2)
General rule for classification and hazard communication of chemicals (GB13690)
Lists of Dangerous Goods (GB12268)

Dangerous goods classification (GB6944)
Common dangerous chemical storage rules (GB15603)
Packaging Symbols of Dangerous Goods (GB190)
National Hazardous Waste Inventory

Section 16 - Other Information

References

SDS Number: 130000140857

Revision Date/Version

Date of first preparation	:	2015/06/29
Revision Date	:	2018/02/14
Version	:	3.0

Significant change from previous version is denoted with a double bar.

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