

Safety Data Sheet

1. Identification of the product and the supplier

Product Identification **DOTITE D-550**

Product Code 5146301

Manufacturer's name : Fujikura Kasei Co., Ltd.
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 Business Group in Charge : Conductive Materials Business Group
 Contact Person : Yohei Hirakawa
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 Classification of Product : Conductive Paste
 General Use : Formation of Circuitry and Contact
 Date prepared : 05/Feb/2019

2. Hazards identification

[GHS Classification]		[Classification categories]	[Hazard statements]
Flammable liquid		Category 2	Highly flammable liquid and vapor
Acute toxicity	Oral	Not Categorized	
	Dermal	Not Categorized	
	Inhalation : Gas	Not Applicable	
	Inhalation : Vapor	Not Categorized	
	Inhalation : Dust and Mist	Not Categorized	
Skin corrosion/Irritation		Category 2	Causes skin irritation
Eye damage/Eye irritation		Category 2	Causes serious eye irritation
Respiratory Sensitization Solid/Liquid		Not Classifiable	
	Gas	Not Classifiable	
Skin Sensitization		Category 1	May cause an allergic skin reaction
Germ Cell Mutagenicity		Not Categorized	
Carcinogenicity		Not Categorized	
Reproductive toxicity		Category 1	May damage fertility or the unborn child
Effects on or via lactation		Additional Category	May cause harm to breast-fed children
Specific Target Organ/Systemic Toxicity (Single Exposure)		Category 1	Causes damage to organs (Respiratory system, Central nervous system, (Neural systems,))
		Category 2	May cause damage to organs (Central nervous system, Kidney)
		Category 3	May cause respiratory irritation
Specific Target Organ/Systemic Toxicity (Repeated Exposure)		Category 1	Causes damage to organs through prolonged or repeated exposure (Eye, Organ of respiration, Central nervous system, Peripheral nervous system)
		Category 2	May cause damage to organs through prolonged or repeated exposure (Central nervous system, Kidney)
Aspiration hazard		Not Categorized	
Hazard to the aquatic environment (Acute)		Category 3	Harmful to aquatic life
Hazard to the aquatic environment (Chronic)		Not Categorized	
Hazard to the ozone layer		Not Classifiable	

[Symbol]



Flame


Exclamation
mark


Health Hazard

[Signal Word]

Danger

[Precautionary Statement]

May be harmful in contact with skin, inhalation or ingestion.

1. Keep away from ignition sources and secure ventilation to work area.
2. Do not get on skin. Wear eye/face protection, protective gloves and long sleeved clothes.
3. Dip contaminated cloth, spray dust and/or mist into water until they are discarded properly.
4. Do not use this product other than the purpose specified by the manufacturer/supplier.
5. If feel unwell because of inhalation, remove to fresh air and keep at rest in a position comfortable for breathing, and call a physician.
6. If in eyes, rinse cautiously with water for several minutes and get medical attention. If swallowed, call a physician immediately.
7. If on skin, wash with plenty of soap and water, and get medical attention.
8. Extinguish fire with CO2 gas, foam and/or dry chemical extinguisher.
9. Close container tightly and store indoor and away from heat and rain. Protect from sunlight.
10. Keep reach out of children.
11. Content should be used up before disposal of container.
12. Container/content should be disposed in accordance with local, regional and national regulations.

3 Composition/Information on Ingredients

Single Substance • Mixture : Mixture

Hazardous Ingredients and Concentration

Chemical Name	CAS No.	Content (%)
Silver	7440-22-4	60
Benzene, methyl-	108-88-3	8.2
2-Butanone	78-93-3	20~30

4 First-Aid measures

[If in Eyes]

- Wash thoroughly eyes and inside of eyelid with plenty of water for minimum of 15 minutes. In case of persistence of irritation, get medical attention.
- If possible, remove contact lens and get medical attention.

[If on Skin]

- Remove stains by wiping with cloth quickly. Change clothes immediately if stained.
- Wash with plenty of soap and water, and get medical attention immediately.

[If Inhaled]

- If feel unwell, remove to fresh air and keep at rest in a position comfortable for breathing, and call a physician.
- If large volume of inhalation, remove to fresh air and call a physician immediately.
- Give artificial aspiration if breathing of victim is irregular or no breathing. Prevent victim from swallowing vomit. Call a physician immediately.

[If Swallowed]

- Call a physician immediately.

5 Fire Fighting measures

Suitable extinguishing Water[] CO2[*] Foam[*] Dry chemical[*] Dry sand[*]

Fire fighting method

- Wear proper protective clothes such as heat insulating clothes/gloves/face shield and/or eye protection.
- Use specified extinguishing media.
- Remove combustible material from surrounding area.
- Start fire fighting from windward
- Do not use water as the extinguishing media.

6 Accidental release measures

- Eliminate all ignition sources such as heat, sparks, open flames and combustible materials.
- Provide an appropriate extinguisher to prepare for fire.
- Dispose contaminant and waste in accordance with regulations relative to disposal.
- Absorb with dry sand, earth or noncombustible material. In case of large spill, hold back with earth to prevent spreading.
- Do not use steel tools as it may cause impact sparks. Tool should be static free. Ground/bond container and receiving equipment.
- Collect spillage and/or leak into air-tight container that can be tightly closed. Move the container to a safe place.
- Dispose contaminant and waste in accordance with regulations relative to disposal.

7 Handling and storage**[Cautions on Handling]**

- Ventilate work area to prevent inhalation of vapor/fume/spray/dust. Keep container tightly closed after each use.
- Keep away from ignition sources such as heat/sparks/open flame, and ventilate work area when handling this product.
- Ground all facilities. All electrical equipments should be explosion proof.
- Ground/bond container or receiving equipment for transportation, mixing and/or transferring of this product.
- Avoid contact with skin. Wear protective gloves, eye/face protection and long sleeved clothes if necessary.
- Cumulate empty drums in place.
- Dip contaminated cloth, spray dust and/or mist into water until they are discarded properly..
- Do not use this product other than the purpose specified by the manufacturer/supplier.

[Cautions on Storage]

- Keep container tightly closed. Store in cool and ventilated indoor place.
- Keep away from flame or heat sources. Protect from direct sun light.
- Keep reach out of children.

8 Exposure Controls/Personal Protection**[Facilities Recommendation]**

- All facilities should be explosion proof.
- Prevent vapor from retention by installation of a proper ventilator.
- If spray indoor, install coating facilities so that workers are protected from direct exposure to spray mist, or install adequate ventilation.

[Protective Equipments]

- Respiratory Protection: Wear dust preventive mask. Wear self-contained breathing apparatus in case of operation in closed areas.
- Eye Protection: Wear goggle type of eye protection.
- Skin Protection: Wear appropriate gloves which is impervious to organic solvents and chemicals.

Threshold Limit of Ingredient

Substance name	JOHSC	ACGIH(TLVs-TWA)
Silver	0.01mg/m3	0.1mg/m3
Benzene, methyl-	50ppm/ 188mg/m3	20ppm
2-Butanone	200ppm/ 590mg/m3	200ppm

* JOHSC : Japan Occupational Health Service Centre

9 Physical and Chemical Properties

Form Liquid[*] Gas[] Solid[]	Color: Silver white	Solubility: No data available
Odor: Solvent odor	Explosion Limits: 1.1vol% (Lower)	Octanol-Water
pH: Not Applicable	11.5vol% (Upper)	Partition Coefficient: No data available
Melting Point: No data available	Vapor	Ignition Point: 480°C
Boiling Point: 80°C	Pressure: 10500Pa(20°C)	Decomposition
Flash Point: -6.6°C	Vapor Density: No data available	Temperature: No data available
	Density: 1.8-2.0g/cm3	Other: None particular

10 Stability and Reactivity**[Reactivity Information]**

This product is stable if handled normally.

[Condition to be Avoided]

None particularly.

[Materials to be Avoided]

None particularly.

[Hazardous Thermal Decomposition Products]

CO, CO₂, HCl, vapors of poisonous low molecule monomers.

[Other Hazardous Information]

None particularly.

11 Toxicological Information

Health Hazard Information on Ingredient Table 1

Substance name	Acute toxicity (LD50, LC50, etc.)				
	Oral	Dermal	Inhalation (Gas)	Inhalation (Vapor)	Inhalation (Dust, Mist)
Silver	Not Categorized >5,000mg/kg	Not Categorized >2,000mg/kg	Not Applicable	Not Classifiable	Not Classifiable
Benzene, methyl-	Not Categorized 5000mg/kg	Not Categorized 12000mg/kg	Not Applicable	Category 4 4000ppm	Not Classifiable
2-Butanone	Not Categorized 2483mg/kg	Not Categorized >5,000mg/kg	Not Applicable	Category 4 11700ppm	Not Classifiable

Health Hazard Information on Ingredient Table 2

Substance name	Skin Corrosion/Irritation	Eye Corrosion/Irritation	Respiratory Sensitization	Skin Sensitization	Germ Cell Mutagenicity	Carcinogenicity
Silver	Not Categorized	Category 2B	Not Classifiable	Category 1	Not Classifiable	Not Classifiable
Benzene, methyl-	Category 2	Category 2B	Not Classifiable	Not Categorized	Not Categorized	Not Classifiable
2-Butanone	Category 2	Category 2B	Not Classifiable	Not Classifiable	Not Categorized	Not Categorized

Health Hazard Information on Ingredient Table 3

Substance name	Reproductive toxicity	Specific Target Organ (Single Exposure)
Silver	Not Classifiable	Category 1 (Respiratory system)
Benzene, methyl-	Category 1A	Category 1 (Central nervous system)
2-Butanone	Not Categorized	Category 1 (Central nervous system)

Health Hazard Information of Ingredient Table 4

Substance name	Specific Target Organ (Repeat Exposure)	Aspiration/Respiratory Toxicity
Silver	Category 1 (Eye, Organ of respiration)	Not Applicable
Benzene, methyl-	Category 1 (Central nervous system, Kidney)	Category 1
2-Butanone	Category 1 (Central nervous system, Peripheral nervous system)	Not Categorized

12 Ecological Information

Aqueous Milieu Hazard Information on Ingredient

Substance name	Hazardous to Aquatic Environment (Acute)	Hazardous to Aquatic Environment (Chronic)
Silver	Not Classifiable	Not Classifiable
Benzene, methyl-	Category 2	Category 3
2-Butanone	Not Categorized	Not Categorized

13 Disposal Considerations

- Content should be used up before disposal of container.
- Consign waste disposal to a qualified waste disposer.
- Do not release drainage of cleaning waste water directly to drain and/or
- Residue of incineration and/or drainage should be disposed in accordance with local, regional and national regulations, or consign the residue to qualified waste disposer.
- Recycling is most recommended as this product contains precious metals.

14 Transport Information

General Information: Follow general instructions described in the "Precautions on Handling and Storage".
Transportation must be done in accordance with the appropriate regulations in case

Ground Transportation: this product falls under a category of regulations such as Fire Service Law (Japan), Industrial Safety and Health Law (Japan), etc.

Marine Transportation: Comply stipulation of appropriate maritime regulations.

Air Transportation: Comply stipulations of appropriate air transportation regulations.

UN Number: 1263

15 Regulatory Information

Industrial Safety and Health Law (Japan)	: Contains indicative/notifiable substance, Dangerous goods (Inflammable Liquid)
Ordinance on Prevention of Organic Solvent Poisoning	: Contains Category II organic solvent
Pollutant Release and Transfer Register	: Contains Category I Chemical Substance
Fire Service Law (Japan)	: 1st Petroleum Group in Class 4 Hazardous Materials, Hazard Class II
Ship Safety Law (Japan)	: Inflammable Liquid, Intermediate Flash Point Group
Aviation Law	: Inflammable Liquid
TSCA	: All components utilized in this product are registered in TSCA inventory.
EINECS	: This product is composed of chemical substances registered in EINECS inventory and/or polymers that are exempt from EINECS.
IECSC	: All components utilized in this product are registered in IECSC inventory.

16 Other Information

[Bibliography]

- Guide Book for Preparation of MSDS and Labeling to Comply with GHS – (Japan Paint Manufacturers Association)
- Model MSDS and Case Example of Labeling – (Japan Paint Manufacturers Association)
- Raw Material Data Base – (Japan Paint Manufacturers Association)
- Globally Harmonized System of Classification and Labeling of Chemicals
(Communications Conference of GHS related Ministries and Agencies)
- Chemical Risk Information Platform – (National Institute of Technology and Evaluation)
- On-line Information of Safety and Health – Japan Advanced Information Centre of Safety and Health
(Japan Industrial Safety and Health Association)
- International Programme on Chemical Safety (IPCS)
- International Chemical Safety Cards (ICSC)
- Handbook on Risk Preventive First Aids
- Pocket Book on Solvents

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