SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER

COMPANY NAME	:	Hakko Corporation
ADDRESS	:	4-5, Shiokusa 2-chome, Naniwa-ku, Osaka, 556-0024 Japan
SECTION IN CHARGE	:	Research & Development Center
TELEPHONE	:	81-6-6561-3225 (FAX: 06-6568-0821)
NUMBER/REFERENCE	:	Sales Division

IMPORTER

COMPANY NAME	:	American Hakko Products, Inc.
ADDRESS	:	28920 Avenue Williams Valencia, CA 91355 USA
SECTION IN CHARGE	:	Engineering
EMERGENCY TELEPHONE	:	1-800-884-2556
NUMBER/REFERENCE	:	Product Division

PRODUCT NAME: Chemical paste

Model: FS100-01

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Physical and chemical hazards

Explosive substance	:	Unclassifiable
Flammable gas	:	Not eligible for classification
Flammable aerosol	:	Not eligible for classification
Oxidizing gas	:	Not eligible for classification
Compressed gas	:	Not eligible for classification
Flammable liquid	:	Not eligible for classification
Flammable solid	:	Unclassifiable
Self-reactive substance	:	Unclassifiable
Pyrophoric liquid	:	Not eligible for classification
Pyrophoric solid	:	Unclassifiable
Self-heating substance	:	Unclassifiable
Substance which, in contact with water, emits flammable gases	:	Unclassifiable

Oxidizing liquid	:	Not eligible for classification
Oxidizing solid	:	Not eligible for classification
Organic peroxide	:	Not eligible for classification
Corrosive to metal	:	Unclassifiable

Health hazards

Acute toxicity - Oral	:	No category
Acute toxicity - Dermal	:	Unclassifiable
Acute toxicity - Inhalation: gas	:	Not eligible for classification
Acute toxicity - Inhalation: vapor	:	Unclassifiable
Acute toxicity - Inhalation: dust	:	Unclassifiable
Acute toxicity - Inhalation: mist	:	Not eligible for classification
Skin corrosion･Skin irritation	:	No category
Serious eye damage /Eye irritation	:	Category 2B
Respiratory sensitizer	:	Unclassifiable
Skin sensitizer	:	Unclassifiable
(Germ-cell mutagenicity)	:	Unclassifiable
(Carcinogenicity)	:	Unclassifiable
Reproductive toxicity	:	Unclassifiable
Specific target organ systemic toxicity – single exposure	:	Category 3 (respiratory tract irritation)
Specific target organ systemic toxicity – repeated exposure	:	Category 1 (lung and liver)
Aspiration hazard	:	Unclassifiable

Environmental hazards

Acute hazards to the aquatic environment	:	Unclassifiable
Chronic hazards to be the aquatic environment	:	Unclassifiable

GHS LABEL ELEMENTS

PICTOGRAM OR SYMBOL : 

SIGNAL WORD : Danger

HAZARD INFORMATION : Eye irritation
Damage to organs (lungs)
Potential respiratory irritation

PRECAUTIONS

[SAFETY MEASURES] : Do not handle the product until you read and understand all the safety precautions.
When using the product, do not eat or smoke.
Avoid exposure by using protective equipment for personal use and a ventilator.
Use respiratory protective equipment.
Use protective gloves, clothes, glasses, and mask.
Use the product only outdoors or a well-ventilated area.
Do not allow the product to come into contact with the eye, skin, or clothes.
Do not inhale dust and fume.
After handling the product, well wash the hands.
Avoid release to the environment.

[FIRST AID MEASURES] : Inhalation: Move the victim to a location with fresh air and rest him in the easy-to-breath position. Immediately receive medical attention.
Ingestion: Rinse the mouth. Do not force the victim to vomit. Immediately receive medical attention.
Eye contact: Carefully rinse the eye with water for several minutes. If the contact lens can be removed easily, do so before rinsing. Immediately receive medical attention.
Skin contact: Rinse the skin with a large amount of water and soap. Receive medial attention.
Wear contact: Immediately remove all the contaminated clothes. To reuse contaminated protective wear, machine-wash it.
Exposure or potential exposure: Receive medial attention.
Sick feeling: Receive medial attention.
Collect leakage.

Storage : Seal the container, lock it, and then store it in a well ventilated place.

Disposal ; Request a specialized waste disposer licensed by the governor to dispose of the container and its content.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	Tin powder	Flux paste	Solid paraffin	Alicyclic amine hydrobromate	Aliphatic amine hydrobromate
Composition (%)	40-50	30-40	10-20	＞10	＞10
Chemical formula	Sn	C_nH_{2n+2}(n=15-20)	C_mH_{2m+2}	$C_AH_BN_C$・HBr	$C_DH_EN_F$・HBr
Official gazette reference No.	—	9-1693	8-414	Undisclosable due to confidentiality although these are existing chemical substances.	
CAS No.	7440-31-5	8009-03-8	8002-74-2		
U.N. classification	N/A	N/A	N/A	N/A	N/A
U.N. No.	—	—	—	—	—

4. FIRST-AID MEASURES

Eye contact : Carefully rinse the eye with water for at least 15 minutes. If the contact lens can be removed easily, do so. Subsequently continue to rinse the eye. Receive medical attention.

Skin contact : Immediately rinse the skin. Receive medial attention.
Remove the contaminated clothes and then machine-wash them before reuse.

Inhalation : Move the victim to a location with fresh air and rest him in the easy-to-breath position. Immediately receive medical attention.

Ingestion : Immediately receive medial attention.
Rinse the mouth. Do not force the victim to vomit.

Expected acute and late symptoms :
- Skin contact : Skin irritation, rash, rough skin, and reddening
- Inhalation : Steam and mist irritate the lungs and upper respiratory tract.
- Eye contact : The mucosa is irritated.

Most important sign and symptom :

5. FIRE FIGHTING MEASURES

Extinguishing media	:	Special powder fire-extinguisher or dry sand
Extinguishing media not to be used	:	Other extinguishing media
Specific hazards	:	Do not use compressed water spray for fire extinction. Fire might result in generating irritating, toxic, or corrosive gas. The product reacts with strong oxidizer.
Special fire fighting procedures	:	If not hazardous, move the container from the fire area. If the container cannot be moved, cool it by spraying water over the container and the adjacent area.
Protection of fire fighters	:	For fire-fighting, use an appropriate air breathing apparatus and protective wear with heat resistance.

6. ACCIDENTAL RELEASE MEASURES

Personal protection, precautions for human body, protective equipment, and emergency measures	:	Immediately isolate the leakage area by defining appropriate distance in all direction. Prohibit access by any person other than the authorized personnel. The workers should use appropriate protective equipment (see "8. EXPOSURE CONTROLS/PERSONAL PROTECTION") to avoid contact with their eyes and skin and inhalation of gas. Without using appropriate protective wear, do not touch any damaged container or leakage. Stay windward. Keep away from any low-lying land.
Environmental Protection	:	Take care to ensure that the product does not cause an environmental effect by being released to any river or the like. Do not release the product to the environment.
Method and materials for contaminant and cleaning up	:	Sweep leakage to collect it in an empty container.
Methods and equipment for containment and purification	:	If not hazardous, stop leakage.
Preventive measures for secondary disaster	:	Immediately eliminate all the ignition sources. Clean the product remaining on the floor as frequently as possible because the floor becomes slippery.

7. HANDLING & STORAGE

Handling

Technical measures	:	Take equipment measures and use protective equipment as described in "8. EXPOSURE CONTROLS/PERSONAL PROTECTION."
Regional and general ventilation	:	Carry out regional and general ventilation as described in "8. EXPOSURE CONTROLS/PERSONAL PROTECTION."
Precautions	:	Do not handle the product until you read and understand all the safety precautions. Do not inhale dust and fume. Avoid contact with your eyes and skin. Do not touch, inhale, or swallow the product. When using the product, do not eat or smoke. After handling the product, well wash your hands. Use the product only outdoors or in a well-ventilated area.
Avoidance of contact	:	See "10. STABILITY AND REACTIVITY."

Storage

Technical measures	:	In the storage location, provide necessary equipment for natural and electric illumination and ventilation that is required to handle the hazardous material.
Storage conditions	:	Store the product while keeping away from any oxidizing agent. Seal the container and store it in a well-ventilated location.
Dangerous material for mixed contact	:	See "10. STABILITY AND REACTIVITY."

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Allowable concentration : Not specified.

Allowable concentration (exposure limit and biological exposure index)

2005 issue of journal by Japan Soceity for Occupational Health : Not specified

Maximum allowable concentration

ACGIH 2005 issue

TLV-TWA : 2mg/m^3 (as tin powder and solid paraffin)

TLV-STEL :

Measures for equipment	**:**	**In the work area to store or handle the product, provide an eye shower and safety show.** **In order to maintain the concentration of production in air at a level below the exposure limit, carry out ventilation for exhaust.** **If dust or fume is generated in the high-heat process, provide a ventilator to maintain an air contaminant level lower than the control concentration.** **Do not handle the product without using closed equipment or a regional ventilator.** **In order to maintain the aerial concentration below the recommended control concentration, make the process airtight and use regional ventilation and other equipment measures.**

Protective gear

Protective gear for respiratory	:	Use appropriate protective gear for respiration.
Protective gloves	:	Use appropriate protective gloves.
Protective gear for eyes	:	Use appropriate protective gear for eyes. Use safety goggles. If contact with eyes or face can occur from splashing or spraying, use comprehensive chemical splash goggles and a facial shield.
Protective gear for skin and body	:	Use appropriate protective gear for the face. Use appropriate protective wear and boots.
Hygiene measures	:	Well wash your hands after handling the product.
Protective clothing	:	

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Appearance	:	Semisolid material
Color		Opaque gray
Odor	:	None
pH	:	No data

Melting point/freezing point	:	40℃ min.
Boiling point, initial boiling point, and boiling range	:	No data
Flash point	:	180℃ min.
Explosion range – Lower limit (%)	:	No data
Explosion range – Upper limit (%)	:	No data
Vapor pressure	:	No data
Vapor density	:	No data
Specific gravity	:	No data
Solubility in water	:	No data
Octanol/water partition coefficient	:	No data
Relative density	:	1.65
Solubility in water	:	Insoluble
Volatiles by volume	:	0
Spontaneous ignition temperature	:	No data
Decomposition temperatur	:	No data
Threshold for smell	:	No data
Evaporation rate (Butyl acetate=1)	:	No data
Combustibility (solid and gas)	:	No data
Viscosity	:	No data

10. STABILITY AND REACTIVITY

Stability / Reactivity : The product slightly deliquesces when exposed to air.

Potentially hazardous reactions : The product reacts with strong oxidizing agent, acids, strong bases, halogen, sulfur, etc.

Conditions to be avoided : Heat source, air, and water

Incompatible materials : Strong oxidizing agent, acids, strong bases, halogen, sulfur, etc.

Hazardous decomposition products : The product decomposes when heated, generating hazardous fuse (hydrogen bromide), carbon monoxide, and carbon dioxide.

11. TOXICOLOGICAL INFORMATION (Including symptom of human and epidemical information)

Acute toxicity : The product has been determined as not classified based on data showing that oral toxicity LD_{50} in rat is larger than 5000 mg/kg (solid paraffin).
About 80% of the components of the mixture consists of components of which toxicity is unknown.
There are data showing that dermal toxicity LD_{50} in rabbit is larger than 3600 mg/kg (solid paraffin). However, the product has been determined as unclassifiable. About 80% of the components of the mixture consists of components of which toxicity is unknown.
Inhalation of steam: No data is available.
Inhalation of dust: No data is available.

Skin corrosion/Skin irritation : In a rabbit test for solid paraffin, the product was evaluated as mil and not irritating. In a test applying the product to human skin, however, the product was evaluated as not irritating. Based on these data, the product has been determined as not classified.

Serious eye damage / Eye irritation : The rabbit test for solid paraffin showed that the product is slightly irritant and mild irritant. Accordingly, the product has been determined as category 2B. About 80% of the components of the mixture consists of components of which toxicity is unknown.
Eye irritation: Category 2B

Respiratory sensitization : No data

Skin sensitization : No data

Germ cell mutagenicity : No data

Carcinogenicity : No data

Reproductive toxicity : No data

Specific target organ systemic toxicity – single exposure : Since the fume causes respiratory tract irritation, the product has been determined as category 3 (respiratory tract irritation).
Category 3: Potential respiratory irritation

Specific target organ systemic toxicity – Repeated exposure : Pneumoconiosis was seen in workers handling metallic tin. Long-term exposure to this substance can cause benign pneumoconiosis (stannosis) in the lungs.
Damage to organs due to long-term or repetitive exposure (category 1): Lung
Long-term or repetitive exposure causes renal damage.
Long-term or repetitive exposure causes lung damage.

Aspiration hazards : No data

12. ECOLOGICAL INFORMATION

Acute hazards to the aquatic environment : Unclassifiable due to data deficiency

Chronic hazards to be the aquatic environment : Unclassifiable due to data deficiency

13. DISPOSAL CONSIDERATIONS

Waste from residues : For disposal of this product, comply with the applicable law and the local government's regulations.
When industrial waste disposers licensed by the governor or local authorities dispose of waste, request them.
Before requesting the disposal of waste, ensure that the industrial waste disposer or local authorities are made well aware of hazards and toxicity.

Contaminated containers and packages : The containers should be cleaned and then recycled or should be disposed of in accordance with the applicable law and the local government's regulations.
To dispose of empty containers, completely remove their content.

14. TRANSPORTATION INFORMATION

International regulations

Maritime transport regulations : Nonhazardous material

UN No.

Proper shipping Name

Class

Sub risk

Packing Group		
Marine Pollutant	:	Not applicable
Information on aeronautical regulations	:	Nonhazardous material
UN No.		
Proper shipping Name		
Class		
Packing Group		

Domestic regulations

Land transport regulations	:	Comply with the fire prevention ordinance (Solid paraffin).
Maritime transport regulations	:	Nonhazardous material
UN No.		
Proper shipping Name		
Class		
Sub risk		
Packing Group		
Marine Pollutant		
Information on aeronautical regulations	:	Nonhazardous material
UN No.		
Proper shipping Name		
Class		
Packing Group		
Special safety measures	:	Hazardous material should be loaded so that it or its transportation container does not drop, tumble, or get damaged. Transport hazardous material or its container while ensuring that there is no heavy friction or jolt.

15. REGULATORY INFORMATION

Industrial safery and health act :

Deleterioius materials whose name and other information should be notified (Article 57-2 of the law; Appendix 9 to Article 18-2 of enforcement regulations)

(paraffin and tin)

Fire Defense Law :

Designated combustible material and combustible solid (Artile 9-4 of the law; Appendix 4 to Hazardous Material Regulations)

Pollutant Release and Transfer Register(PRTR)Law

Ship safety act

Civil aeronautics Act

TSCA (USA):

All components of this product are either on the TSCA Inventory or are not required to be listed on the TSCA Inventory.

16. OTHER INFORMATION

Reference :

Manufacturer-issued SDS

Established on January 17, 2005
Revised on May 24, 2021

This document has been prepared based on the information and data that are available as of this date. Therefore, it may be revised when new information or data has been obtained.
The information and data contained herein are subject to the normal use. The evaluation of dangerousness and toxicity is, therefore, not always applicable. For this reason, the safety precautions suitable for your purpose and method must be taken prior to the use.