Material Safety Data Sheet

Hot-melt Sheet (MSDS:H154005-01-NA-E)

Section 1. Chemical product and company identification

Common Name : Hot-melt Sheet
Code : H154005-00
Chemical Name : Ethylene-vinyl based hot-melt adhesive
Use : Adhesive paste for bookbinder
Supplier/ Manufacturer : Noritsu Koki Co., Ltd, 579-1, Umehara, Wakayama-shi, 640-8550, Japan
Emergency:+81 73 454 0309 Phone: +81 73 454 0309 Fax: +81 73 454 4618
E-mail: msds@nkc.noritsu.co.jp
In Case Of Emergency : CHEMTREC,U.S : (800)424-9300 International : (703)527-3887

Section 2. Hazards Identification

Emergency Overview :

Product is a solid adhesive embedded in fabric which is heated and melted for use. Under normal conditions of use according to the operation guide, where automated machinery is used for heating and assembling of bound books, chance of contact with heated material is very low. However, should it occur, contact with heated material may cause slight burns to the skin. Odor is generated by thermal processing. Contains a component thought to be a carcinogen.

Hazards Statements :

Do not get heated material on skin or into eyes. Do not breathe dusts or vapors. Keep away from heat, sparks and flame. Keep container tightly closed. Prevent creation and accumulation of any dust. Use with adequate ventilation. Wash thoroughly after handing.

Potential Health Effects: Eyes

Vapors generated from thermal process cause irritation with redness, pain and tearing.

Potential Health Effects: Skin :

May cause irritation if allowed to remain in contact with the skin.

Potential Health Effects: Ingestion :

Ingestion of solid material may cause stomach upset or intestinal blockage.

Potential Health Effects: Inhalation :

Foul smelling vapors generated from thermal processing cause irritation, throat, and upper respiratory tract, if inhaled. Symptoms may include coughing and difficulty breathing. Odors may cause headache in sensitive individuals.

HMIS Ratings: Health: 2* **Fire:** 1 **Physical Hazard:** 0
Pers. Prot.: safety glasses, heat-resistant gloves, heat-resistant protective clothing
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Section 3. Composition, Information on Ingredients

CAS No.	Component	Percent
8002-74-2	Paraffin waxes and Hydrocarbon waxes	10 - 30 %
63231-60-7	Microcrystalline wax	10 - 30 %
13463-67-7	Titanium dioxide	1 - 5 %

Component Information/Information on Non-Hazardous components

During normal conditions of use, this product is considered hazardous under 29 CFR 1910. 1200(Hazard Communication) and the Canadian Controlled Product Regulations.

Section 4. First Aid Measures

First Aid: Eyes

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Obtain medical attention.

First Aid: Skin

In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.

First Aid: Inhalation

If significant amounts are ingested, contact a physician or poison control center. Do not induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions.

First Aid: Ingestion

If fumes are inhaled, remove the affected person to fresh air. If not breathing, have qualified personnel give artificial respiration and seek medical attention immediately.

Section 5. Fire Fighting Measures

General Fire Hazards

See Section 9 for Flammability Properties.

Material id not flammable but is an organic solid which will burn at high temperatures. Fine particles suspended in air critical proportions and in the presence of an ignition source may ignite and/or explode. Dust may be sensitive to ignition by electrostatic discharge, electrical arcs, sparks, welding torches, cigarettes, open flame, or other significant heat sources. As a precaution, implement standard safety measures for handling finely divided organic powders. Eliminate ignition sources (e.g., sparks, buildup, excessive heat, etc.). Transfer of material from its container may cause an electrostatic buildup which may be discharged as a spark. Use non-sparking tools. See Section 7 for suggested measures.

Hazardous Combustion products

Under fire conditions, decomposition may produce carbon dioxide, carbon monoxide, nitrogen oxides and various low molecular weight hydrocarbons.

Extinguishing Media

Dry powder, regular foam, carbon dioxide, sand, and water

Unsuitable Extinguishing Media

Molten material may be spread or splattered by direct streams of water. Care should be taken to avoid spreading and splattering molten or burning material

Fire-Fighting Equipment/Instructions

Firefighters should wear full-face, self contained breathing apparatus and impervious protective clothing. Firefighters should avoid inhaling any combustion products.

NFPA Ratings: Health: 2 **Fire:** 1 **Reactivity:** 0

Hazard Scale: 0=Minimal 1=Sight 2=Moderate 3=Serious 4=Severe

Section 6. Accidental Release Measures

Personal Precautions

Wear proper personal protective clothing and equipment. Spilled material can cause a fall hazard. Watch your step in areas where quantities of material are spilled. If hot, melted product is spilled, allow to cool and solidify before clean up if possible. Always wear heat resistant protective clothing and gloves when handling heated material.

Containment Procedures

Stop the flow of material, if this is without risk. Remove sources of ignition. Block any potential routes to water systems.

Environmental Precautions

Contain the spilled material. Prevent flow into public sewer, streams or other water systems.

Clean-Up Procedures

Eliminate all ignition sources. Ventilate the area. If spill is large, be prepared to isolate the hazard area. Deny access to the spill area to persons who are not involved in the clean up and/or who have not been properly trained in spill management of hazardous material. Carefully collect spilled solid powder with appropriate clean up equipment. Do not vacuum unless equipped with HEPA filter. Put material in suitable, covered, labeled containers.

Evacuation Procedures

Isolate area. Keep unnecessary personnel away.

Special procedures

Follow all regulations for disposal of recovered material. Large spills of heated material will produce a foul odor detectable over a large area. Consider need for notification of surrounding residents.

Section 7. Handling and Storage

Handling Procedures

Avoid contact with skin, eyes and clothing. Avoid breathing dust. Avoid breathing vapors or fumes from heated material. Avoid creation of dust. Do not swallow. Use this product with adequate ventilation. Wash thoroughly after handling. Eliminate ignition sources (e.g., sparks, static buildup, excessive heat, etc.). Transfer of material from its container may cause an electrostatic buildup which may be discharged as a spark. Use non-sparking tools.

Storage Procedures

Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Avoid storing in direct sunlight or in contact with hot metal or surfaces of any kind.

Section 8. Exposure Controls, Personal Protection

Exposure Guidelines

A: General product Information

Keep all exposures to a minimum.

B: Component Exposure limits

Paraffin waxes and Hydrocarbon waxes (8002-74-2)

ACGIH:	2mg/m^3 TWA(fume)
OSHA(Vacated):	2mg/m^3
NIOSH:	2mg/m^3 TWA(fume)
Alberta:	2mg/m^3 TWA(fume)
British Columbia:	2mg/m^3 TWA(fume)
Manitoba:	2mg/m^3 TWA(fume)
New Brunswick:	2mg/m^3 TWA(fume)
NW Territories:	2mg/m^3 TWA(fume)
	6mg/m^3 STEL(fume)
Nova Scotia:	2mg/m^3 TWA(fume)
Nunavut:	2mg/m^3 TWA(fume)
	6mg/m^3 STEL(fume)
Ontario:	2mg/m^3 TWA(fume)
Quebec:	2mg/m^3 TWA(fume)
Saskatchewan:	2mg/m^3 TWA
	6mg/m^3 STEL

Yukon: 2mg/m^3 TWA(fume)
6mg/m^3 STEL(fume)

Titanium dioxide(13463-67-7)

ACGIH: 10mg/m^3 TWA
OSHA(Final): 15mg/m^3 TWA (total dust)
OSHA(Vacated): 10mg/m^3 TWA (total dust)
Alberta: 10mg/m^3 TWA
British Columbia: IARC Category 2B - Possible Human Carcinogen
10mg/m^3 TWA(total dust); 3mg/m^3 TWA(respirable fraction)
Manitoba: 10mg/m^3 TWA
New Brunswick: 10mg/m^3 TWA
NW Territories: 5mg/m^3 TWA(respirable mass); 10mg/m^3 TWA(total mass)
Nova Scotia: 10mg/m^3 TWA
Nunavut: 5mg/m^3 TWA()(respirable mass); 10mg/m^3 TWA(total mass)
Ontario: 10mg/m^3 TWAEV(total dust)
Quebec: 10mg/m^3 TWAEV(total dust, containing no asbestos and less than 1% crystalline silica)
Saskatchewan: 10mg/m^3 TWA
20mg/m^3 STEL
Yukon: 30mppcf TWA; 10mg/m^3 TWA
20mg/m^3 STEL

Engineering Controls

Ventilation should be sufficient to effectively remove and prevent buildup of any vapors or dust that may be generated during handling or thermal processing. Melting equipment with direct ventilation is recommended. Use local, general or room ventilation to remove vapors.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Wear eye protection, such as safety goggles, suitable for keeping dust out of eyes. A face shield is recommended where contact with molten material is possible.

Personal Protective Equipment: Skin

Heat resistant, protective clothing should be worn when handling molten material. Protective clothing may include rubber boots and apron.

Personal Protective Equipment: Respiratory

If ventilation is not sufficient to effectively prevent build up of either dusts or vapors generated by thermal processing or handling, appropriate NIOSH approved respiratory protection must be provided. Use respiratory protection in accordance with your company's respiratory protection program, local regulations or OSHA regulations under 29 CFR 1910.134.

Personal Protective Equipment: General

Eye wash fountains and emergency showers are required in the work area.

Section 9. Physical and Chemical Properties

Appearance:	White solid	**Odor:**	Odorless at 70 °F(solid), foul odor above 200°F (liquid)
Physical State:	Solid	**pH:**	Not available
Vapor Pressure:	Not available	**Vapor Density:**	Not available
Boiling Point:	Not available	**Melting Point:**	Not available
Solubility(H2O):	Insoluble	**Density:**	0.9-1 (approximately)
Softening Point:	185 +/- 14.4°F	**Evaporation Rate:**	Not available
VOC:	Not available	**Octanol/H2O Coeff:**	Not available
Flash Point:	>200°F	**Flash Point Method:**	Not available
Upper Flammability Limit :	Not available	**Lower Flammability Limit:**	Not available
Auto Ignition :	Not available		

Section 10. Stability and Reactivity

Chemical Stability

Stable under normal conditions of use.

Stable under normal handling conditions.

However, it is possible that the products performance deteriorates by heat and/or light.

Chemical Stability: Conditions to avoid

Avoid temperatures above 392°F, ignition sources, direct sunlight and moisture. Exposure to sunlight may decrease shelf-life and product performance.

Incompatibility

None known.

Hazardous Decomposition

Heated material may decompose producing carbon dioxide, carbon monoxide, nitrogen oxides, various irritating fumes and low molecular weight hydrocarbons.

Section 11. Toxicological Information

Acute Dose Effects

A: General Product Information

Molten material is hot and will cause burns to skin and eyes. Vapors produced during thermal processing are foul smelling and irritating.

B: Component Analysis – LD50/LC50

Microcrystalline wax (63231-60-7)

Oral LD50 Rat:: 10000mg/kg; Dermal LD50 Rabbit:>3600mg/kg

Paraffin waxes and Hydrocarbon waxes (8002-74-2)

Oral LD50 Rat:: >3750mg/kg; Dermal LD50 Rabbit:>3600mg/kg

Titanium dioxide (13463-67-7)

Oral LD50 Rat:: 10000mg/kg

Irritation

Vapors produced during thermal processing are irritating to eyes and skin.

Carcinogenicity

A: General Product Information

No information for the product is available. Contains a component thought to cause cancer.

B: Component Carcinogenicity

Titanium dioxide (13464-67-7)

ACGIH: A4 – Not Classifiable as a Human Carcinogen

NIOSH: Potential occupational carcinogen

IARC: Monograph 93 [in preparation]; Monograph 47 [1989] (Group 2B (possibly carcinogenic to humans))

Section 12. Ecological Information

Eco toxicity

A: General Product Information

No information for the product is available. Based on component information, product is not expected to be toxic in the aquatic environment. However, product is a solid, plastic-type, insoluble material that may cause intestinal distress if ingested by fish or birds. Avoid release to sewers or open waterways.

B: Component Analysis – Eco toxicity – Aquatic Toxicity

No eco toxicity data are available for this product's components.

Persistence & Degradability

No information is available for the product. Based on component information, product is expected to degrade slowly in the environment.

Mobility in Environment Media

No information for the product is available. Based on component information, product is not expected to be mobile in either soil or water.

Section 13. Disposal Considerations

US EPA Waste Number & Descriptions

A: General Product Information

Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Waste must be handled in accordance with all federal, state, provincial, and local regulations. In case of large spills, follow all facility Emergency Response Procedures. Do not allow this material to drain into sewers/ water supplies.

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Section 14. Transport Information

US DOT Information

Shipping Name: Not regulated as a hazardous material.

TDG Information

Shipping Name: Not regulated as a dangerous good.

Section 15. Regulatory Information

US Federal Regulations

Component Analysis

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 3772.65), or CERCLA (40 CFR 301.4).

Acute Health: Yes **Chronic Health:** Yes **Fire:** No **pressure:** No **Reactive:** No

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Paraffin waxes and Hydrocarbon waxes	8002-74-2	Yes	Yes	Yes	Yes	Yes	Yes
Titanium dioxide	13463-67-7	No	Yes	Yes	Yes	Yes	Yes

Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

WHMIS Classification: Class D2B - Eye/ Skin irritation
Class D2A - Carcinogen

Additional Regulatory Information
Component Analysis – Inventory

Component	CAS	TSCA	CAN	EEC
Microcrystalline wax	63231-60-7	Yes	DSL	EINECS
Paraffin waxes and Hydrocarbon waxes	8002-74-2	Yes	DSL	EINECS
Titanium dioxide	13463-67-7	Yes	DSL	EINECS

Section 16. Other Information

Other Information

Although this product is composed of an adhesive combined with fabric, only the properties and hazards of the adhesive are addressed in this MSDS. This MSDS is intended to describe conditions of normal use and handling as defined in the User's Manual or Instruction Booklet. Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty, expressed or implied, with respect to this information. Since all chemical products may have unknown hazards, great care should be taken when handling.

Key/Legend

ACGIH: American Conference of Governmental Industrial Hygienists
A1: Confirmed human carcinogen
A2: Suspected human carcinogen
A3: Animal carcinogen
DSL: Canadian Domestic Substance List
CAS No: Chemical Abstract Service Registry Number
EEC: European Economic Community
IARC: International Agency for Research on Cancer
Group1: Carcinogenic to humans
Group2A: Probably Carcinogenic to humans
Group2B: Possibly Carcinogenic to humans
Group3: Unclassifiable as a Carcinogenic to humans
JSOH: Japan Society for Occupational Health
LVE: Low Volume Exemption
METI: Ministry of Environment, Trade, and Industry
MSHA: Mine Safety and Health Administration
NIOSH: National Institute for Occupational Safety and Health
NDSL: Non-Domestic Substance List
NTP: National Toxicology Program
N/A: Not Applicable
N/E: None Established
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
PNOC: Particulates Not Otherwise Classified
STEL: Short Term Exposure Limit (15 minute Time Weighted Average)
TLV: Threshold Limit Value
C: Ceiling limit
S: Skin notation refers to the potential significant
Contribution to the overall exposure by the cutaneous route
Including mucous membranes and the eyes and by direct skin
contact with the substance
WEEL: Workplace Environmental Exposure Level
WHMIS: Canadian Workplace Hazardous Materials Information System