Safety Data Sheet

This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

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SECTION 1: Identification

1.1. Product identifier
3M™ Hot Melt Adhesive 3764-AE, 3764-PG, 3764-TC, 3764-Q, 3764-B

Product Identification Numbers

62-3764-7230-4	62-3764-7231-2	62-3764-7232-0	62-3764-7233-8	62-3764-7234-6
62-3764-7235-3	62-3764-7236-1	62-3764-8530-6	62-3764-9030-6	62-3764-9130-4
62-3764-9132-0	62-3764-9135-3	62-3764-9136-1	62-3764-9230-2	62-3764-9231-0
62-3764-9232-8	62-3764-9330-0	62-3764-9333-4	62-3764-9335-9	62-3764-9336-7
62-3764-9337-5	62-3764-9338-3	62-3764-9339-1	62-3764-9395-3	62-3764-9399-5
62-3764-9530-5	62-3764-9531-3	62-3764-9536-2	62-3764-9537-0	62-3764-9830-9
62-3764-9835-8	62-3764-9836-6	62-3764-9930-7		

1.2. Recommended use and restrictions on use

Recommended use
Adhesive, Hot-melt adhesive

1.3. Supplier's details
Address: 3M Technologies (S) Pte Ltd,10 Ang Mo Kio Street 65, Singapore 569059
Telephone: +65 6450 8888
Website: www.3m.com.sg

1.4. Emergency telephone number
+65 6591 6888 (8.15am - 5.00pm, Monday - Friday)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
This product is not classified as hazardous per GHS criteria as implemented by Singapore Standard SS586.

2.2. Label elements
SIGNAL WORD
Not applicable.

Symbols
Not applicable.

Pictograms
Not applicable.

2.3. Other hazards
May cause thermal burns. 3M Avoid contact with hot extruded material or applicator tip. Avoid direct eye exposure to vapours. 3M In case of skin contact with molten material, immediately flush with cold water and cover with a clean dressing. Do not attempt to remove adhesive. Have burn treated by a medical doctor.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Ethylene - vinyl acetate copolymer	24937-78-8	< 65
Naptha (Petroleum), Llight Steam-Cracked, Debenzenized, Polymers, Hydrogenated	68132-00-3	< 40
Hydrocarbon resin	Mixture	< 35
Polyethylene Polymer	9006-26-2	1 - 10
Polyolefin Wax	8002-74-2	1 - 10
Antioxidant	6683-19-8	< 2

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
No need for first aid is anticipated.

Skin contact
Immediately flush skin with large amounts of cold water for at least 15 minutes. DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Cover affected area with a clean dressing. Get immediate medical attention.

Eye contact
Immediately flush eyes with large amounts of water for at least 15 minutes. DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Get immediate medical attention.

If swallowed
No need for first aid is anticipated.

4.2. Most important symptoms and effects, both acute and delayed
No critical symptoms or effects. See Section 11.1, information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition

Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Irritant vapours or gases.	During combustion.

5.3. Special protective actions for fire-fighters
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Ventilate the area with fresh air. Observe precautions from other sections.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid skin contact with hot material. For industrial/occupational use only. Not for consumer sale or use.

7.2. Conditions for safe storage including any incompatibilities
Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Polyolefin Wax	8002-74-2	ACGIH	TWA(as fume):2 mg/m3	
Polyolefin Wax	8002-74-2	Singapore PELs	TWA(as fume)(8 hours):2 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
Singapore PELs : Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Full face shield.
Indirect vented goggles.

Skin/hand protection
No chemical protective gloves are required.

Respiratory protection
None required.

Thermal hazards
Wear heat insulating gloves when handling hot material to prevent thermal burns.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Waxy Solid
Color	White
Odor	Odourless
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	*Not applicable.*
Flash point	267.8 ºC [*Test Method:*Cleveland Open Cup] [*Details:*Conditions: ASTM D-92-72]
Evaporation rate	*Not applicable.*
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*No data available.*
Vapor Density and/or Relative Vapor Density	*No data available.*
Density	0.95 g/cm3
Relative density	0.95 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
Viscosity/Kinematic Viscosity	*Not applicable.*
Volatile organic compounds (VOC)	0 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Percent volatile	0 % weight
VOC less H2O & exempt solvents	0 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Molecular weight	*No data available.*
Solids content	100 %

Nanoparticles
This material does not contain nanoparticles.

SECTION 10: Stability and reactivity

10.1 Reactivity
This material is considered to be non reactive under normal use conditions

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
None known.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation
No health effects are expected.

Skin contact
During heating: Thermal Burns: Signs/symptoms may include intense pain, redness and swelling, and tissue destruction.

Eye contact
During heating: Thermal Burns: Signs/symptoms may include severe pain, redness and swelling, and tissue destruction.

Ingestion
No known health effects.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value

Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Ethylene - vinyl acetate copolymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Ethylene - vinyl acetate copolymer	Ingestion	Rat	LD50 > 1,000 mg/kg
Naptha (Petroleum), Llight Steam-Cracked, Debenzenized, Polymers, Hydrogenated	Dermal		LD50 estimated to be > 5,000 mg/kg
Naptha (Petroleum), Llight Steam-Cracked, Debenzenized, Polymers, Hydrogenated	Ingestion		LD50 estimated to be > 5,000 mg/kg
Hydrocarbon resin	Dermal	Rat	LD50 > 2,000 mg/kg
Hydrocarbon resin	Ingestion	Rat	LD50 > 5,000 mg/kg
Polyethylene Polymer	Dermal	Rabbit	LD50 > 7,940 mg/kg
Polyethylene Polymer	Ingestion	Rat	LD50 > 10,000 mg/kg
Polyolefin Wax	Dermal	Rat	LD50 > 5,000 mg/kg
Polyolefin Wax	Ingestion	Rat	LD50 > 5,000 mg/kg
Antioxidant	Dermal	Rabbit	LD50 > 3,160 mg/kg
Antioxidant	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.95 mg/l
Antioxidant	Ingestion	Rat	LD50 > 10,250 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Ethylene - vinyl acetate copolymer	Professional judgement	No significant irritation
Naptha (Petroleum), Llight Steam-Cracked, Debenzenized, Polymers, Hydrogenated	Professional judgement	No significant irritation
Polyethylene Polymer	Rabbit	No significant irritation
Polyolefin Wax	Rabbit	No significant irritation
Antioxidant	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Ethylene - vinyl acetate copolymer	Professional judgement	No significant irritation
Naptha (Petroleum), Llight Steam-Cracked, Debenzenized, Polymers, Hydrogenated	Professional judgement	No significant irritation
Polyethylene Polymer	Rabbit	Mild irritant
Polyolefin Wax	Rabbit	No significant irritation
Antioxidant	Rabbit	Mild irritant

Sensitization:

Skin Sensitisation

Name	Species	Value
Polyolefin Wax	Guinea pig	Not classified
Antioxidant	Human and animal	Not classified

Respiratory Sensitisation

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Polyolefin Wax	In Vitro	Not mutagenic
Antioxidant	In Vitro	Not mutagenic
Antioxidant	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Polyolefin Wax	Ingestion	Rat	Not carcinogenic
Antioxidant	Ingestion	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Antioxidant	Ingestion	Not classified for female reproduction	Rat	NOAEL 688 mg/kg/day	2 generation
Antioxidant	Ingestion	Not classified for male reproduction	Rat	NOAEL 688 mg/kg/day	2 generation
Antioxidant	Ingestion	Not classified for development	Multiple animal species	NOAEL 1,000 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure
For the component/components, either no data are currently available or the data are not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Ethylene - vinyl acetate copolymer	Ingestion	liver	Not classified	Rat	NOAEL 4,000 mg/kg/day	90 days
Polyolefin Wax	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 15 mg/kg/day	90 days
Polyolefin Wax	Ingestion	hematopoietic system | liver | immune system | skin | endocrine system | bone, teeth, nails, and/or hair | muscles | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
Antioxidant	Ingestion	endocrine system	Not classified	Rat	NOAEL 450 mg/kg/day	2 years
Antioxidant	Ingestion	liver	Not classified	Dog	NOAEL 302 mg/kg/day	90 days
Antioxidant	Ingestion	hematopoietic system | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 2,500 mg/kg/day	90 days
Antioxidant	Ingestion	auditory system |	Not classified	Dog	NOAEL 302	90 days

		eyes			mg/kg/day	

Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Ethylene - vinyl acetate copolymer	24937-78-8		Data not available or insufficient for classification			N/A
Naptha (Petroleum), Llight Steam-Cracked, Debenzenized, Polymers, Hydrogenated	68132-00-3		Data not available or insufficient for classification			N/A
Hydrocarbon resin	Mixture		Data not available or insufficient for classification			N/A
Polyethylene Polymer	9006-26-2		Data not available or insufficient for classification			N/A
Polyolefin Wax	8002-74-2	Green algae	Estimated	96 hours	EC50	>1,000 mg/l
Polyolefin Wax	8002-74-2	Rainbow trout	Estimated	96 hours	LC50	>1,000 mg/l
Polyolefin Wax	8002-74-2	Water flea	Estimated	48 hours	EC50	>10,000 mg/l
Antioxidant	6683-19-8	Water flea	Endpoint not reached	24 hours	EC50	>100 mg/l
Antioxidant	6683-19-8	Activated sludge	Experimental	3 hours	IC50	>100 mg/l
Antioxidant	6683-19-8	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l

Antioxidant	6683-19-8	Zebra Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Antioxidant	6683-19-8	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Ethylene - vinyl acetate copolymer	24937-78-8	Data not available-insufficient			N/A	
Naptha (Petroleum), Llight Steam-Cracked, Debenzenized, Polymers, Hydrogenated	68132-00-3	Estimated Biodegradation	28 days	BOD	0 % BOD/ThBOD	Non-standard method
Hydrocarbon resin	Mixture	Data not available-insufficient			N/A	
Polyethylene Polymer	9006-26-2	Data not available-insufficient			N/A	
Polyolefin Wax	8002-74-2	Estimated Biodegradation	28 days	BOD	40 % weight	OECD 301F - Manometric respirometry
Antioxidant	6683-19-8	Experimental Biodegradation	28 days	CO2 evolution	5 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Ethylene - vinyl acetate copolymer	24937-78-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Naptha (Petroleum), Llight Steam-Cracked, Debenzenized, Polymers, Hydrogenated	68132-00-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrocarbon resin	Mixture	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Polyethylene Polymer	9006-26-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Polyolefin Wax	8002-74-2	Estimated Bioconcentrati		Log Kow	10.2	Estimated: Octanol-water partition

		on				coefficient
Antioxidant	6683-19-8	Experimental BCF-Carp	42 days	Bioaccumulation factor	<2.3	OECD 305C-Bioaccum degree fish

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes.

SECTION 14: Transport Information

International Regulations

UN No.: Not restricted for transport.
UN Proper shipping name: Not restricted for transport.

Transportation Class (IMO): None assigned
Transportation Class (IATA): None assigned
Other Dangerous Goods Descriptions (IMO): None assigned
Other Dangerous Goods Descriptions (IATA): None assigned
Packing Group: None assigned
Marine pollutant: None assigned

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our

knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Singapore SDSs are available at www.3m.com.sg