Safety Data Sheet

Document Group:	39-1929-7	**Version Number:**	2.01
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SECTION 1: Identification

1.1. Product identifier
3M™ Heat Actived Film 7110B, Black

Product Identification Numbers
70-0075-2040-9, 70-0075-3565-4
7100176436

1.2. Recommended use and restrictions on use

Recommended use
film based adhesive

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Acute Toxicity (oral): Category 4.
Serious Eye Damage/Irritation: Category 2B.
Skin Sensitizer: Category 1A.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark |

Pictograms

Hazard Statements
Harmful if swallowed.
Causes eye irritation.
May cause an allergic skin reaction.

Precautionary Statements

Prevention:
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Rinse mouth.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

25% of the mixture consists of ingredients of unknown acute oral toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Epoxy resin 1	Trade Secret*	20 - 40 Trade Secret *
Acrylic polymer	Trade Secret*	20 - 30 Trade Secret *
Polyester thiol	Trade Secret*	15 - 30 Trade Secret *
Epoxy resin 2	Trade Secret*	9 - 20 Trade Secret *
Butadiene-acrylic copolymer	Trade Secret*	< 8 Trade Secret *
Epoxy amine adduct	Trade Secret*	1 - 5 Trade Secret *
Polyester thiol impurity	Trade Secret*	< 5 Trade Secret *
Black Pigment	Trade Secret*	< 1 Trade Secret *
Organo silane	Trade Secret*	< 1 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Allergic skin reaction (redness, swelling, blistering, and itching).

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
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	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
Evacuate area. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

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
For industrial/occupational use only. Not for consumer sale or use. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

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	C.A.S. No.	Agency	Limit type	Additional Comments
Black Pigment	Trade Secret	ACGIH	TWA(inhalable fraction):3 mg/m3	A3: Confirmed animal carcin.
Black Pigment	Trade Secret	OSHA	TWA:3.5 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
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/vapors/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:
Safety Glasses with side shields
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	
Physical state	Solid
Color	Black
Specific Physical Form:	Film
Odor	Slight Mercaptan
Odor threshold	*Not Applicable*
pH	*Not Applicable*
Melting point	*Not Applicable*
Boiling Point	*Not Applicable*
Flash Point	No flash point
Evaporation rate	*Not Applicable*
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapor Pressure	Negligible
Vapor Density	*Not Applicable*
Density	1.1 g/cm3
Specific Gravity	1.1 [*Ref Std:*WATER=1]
Solubility in Water	Negligible
Solubility- non-water	*Not Applicable*
Partition coefficient: n-octanol/ water	*Not Applicable*
Autoignition temperature	*Not Applicable*
Decomposition temperature	*Not Applicable*
Viscosity	*Not Applicable*
Molecular weight	*Not Applicable*
Percent volatile	Negligible

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat
Light

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 labeling, 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:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:
Harmful if swallowed. Physical Blockage: Signs/symptoms may include cramping, abdominal pain, and constipation.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
Black Pigment	Trade Secret	Known To Be Human Carcinogen.	National Toxicology Program Carcinogens
Black Pigment	Trade Secret	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Black Pigment	Trade Secret	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

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	Ingestion		No data available; calculated ATE >300 - =2,000 mg/kg
Epoxy resin 1	Dermal	Rat	LD50 > 1,600 mg/kg

Epoxy resin 1	Ingestion	Rat	LD50 > 1,000 mg/kg
Polyester thiol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 3.363 mg/l
Polyester thiol	Ingestion	Rat	LD50 >300, <2000 mg/kg
Epoxy resin 2	Dermal	Rat	LD50 > 1,600 mg/kg
Epoxy resin 2	Ingestion	Rat	LD50 > 1,000 mg/kg
Butadiene-acrylic copolymer	Dermal	Rabbit	LD50 > 5,000 mg/kg
Butadiene-acrylic copolymer	Ingestion	Rat	LD50 > 5,000 mg/kg
Polyester thiol impurity	Dermal	Rat	LD50 > 2,000 mg/kg
Polyester thiol impurity	Ingestion	Rat	LD50 908 mg/kg
Organo silane	Dermal	Rabbit	LD50 4,000 mg/kg
Organo silane	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
Organo silane	Ingestion	Rat	LD50 7,010 mg/kg
Black Pigment	Dermal	Rabbit	LD50 > 3,000 mg/kg
Black Pigment	Ingestion	Rat	LD50 > 8,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Epoxy resin 1	Rabbit	Mild irritant
Polyester thiol	Rabbit	No significant irritation
Epoxy resin 2	Rabbit	Mild irritant
Butadiene-acrylic copolymer	Professional judgement	Minimal irritation
Polyester thiol impurity	Rabbit	No significant irritation
Organo silane	Rabbit	Mild irritant
Black Pigment	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Epoxy resin 1	Rabbit	Moderate irritant
Polyester thiol	Rabbit	No significant irritation
Epoxy resin 2	Rabbit	Moderate irritant
Butadiene-acrylic copolymer	Professional judgement	Mild irritant
Polyester thiol impurity	Rabbit	No significant irritation
Organo silane	Rabbit	Corrosive
Black Pigment	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
Epoxy resin 1	Human and animal	Sensitizing
Polyester thiol	Guinea pig	Sensitizing
Epoxy resin 2	Human and animal	Sensitizing
Polyester thiol impurity	Guinea pig	Sensitizing
Organo silane	Guinea pig	Not classified

Respiratory Sensitization

Name	Species	Value
Epoxy resin 1	Human	Not classified
Epoxy resin 2	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Epoxy resin 1	In vivo	Not mutagenic
Epoxy resin 1	In Vitro	Some positive data exist, but the data are not sufficient for classification
Polyester thiol	In Vitro	Not mutagenic
Epoxy resin 2	In vivo	Not mutagenic
Epoxy resin 2	In Vitro	Some positive data exist, but the data are not sufficient for classification
Polyester thiol impurity	In Vitro	Not mutagenic
Organo silane	In vivo	Not mutagenic
Organo silane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Black Pigment	In Vitro	Not mutagenic
Black Pigment	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Epoxy resin 1	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Epoxy resin 2	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Organo silane	Dermal	Mouse	Not carcinogenic
Black Pigment	Dermal	Mouse	Not carcinogenic
Black Pigment	Ingestion	Mouse	Not carcinogenic
Black Pigment	Inhalation	Rat	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Epoxy resin 1	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy resin 1	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy resin 1	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Epoxy resin 1	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Polyester thiol	Ingestion	Not classified for development	Rat	NOAEL 120 mg/kg/day	during gestation
Epoxy resin 2	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy resin 2	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy resin 2	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Epoxy resin 2	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Polyester thiol impurity	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	premating into lactation
Polyester thiol impurity	Ingestion	Not classified for male reproduction	Rat	NOAEL 500	29 days

				mg/kg/day	
Polyester thiol impurity	Ingestion	Not classified for development	Rat	NOAEL 500 mg/kg/day	premating into lactation
Organo silane	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
Organo silane	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
Organo silane	Ingestion	Not classified for development	Rat	NOAEL 3,000 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
Epoxy resin 1	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Epoxy resin 1	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Epoxy resin 1	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Polyester thiol	Ingestion	gastrointestinal tract | immune system | kidney and/or bladder | hematopoietic system | nervous system | eyes	Not classified	Rat	NOAEL 200 mg/kg/day	90 days
Epoxy resin 2	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Epoxy resin 2	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Epoxy resin 2	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Polyester thiol impurity	Ingestion	endocrine system | hematopoietic system | liver | immune system | kidney and/or bladder | nervous system	Not classified	Rat	NOAEL 500 mg/kg/day	29 days
Organo silane	Ingestion	heart | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | nervous system | kidney and/or	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

		bladder | respiratory system				
Black Pigment	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure

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

Ecotoxicological information

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

Chemical fate information

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

SECTION 13: Disposal considerations

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

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. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials.

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards
Not applicable

Health Hazards
Acute toxicity
Respiratory or Skin Sensitization
Serious eye damage or eye irritation

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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