



## Safety Data Sheet

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<b>Issue Date:</b>	10/25/13	<b>Supersedes Date:</b>	10/21/13

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Lead Foil Tape 420

#### Product Identification Numbers

44-0004-0524-9, 44-0012-1910-2, 44-0044-3649-7, 70-0000-8019-5, 70-0063-8612-5, 70-0063-8613-3, 70-0063-8614-1, 70-0063-8615-8, 70-0063-8616-6, 70-0063-8617-4, 70-0063-8828-7, 70-0063-8829-5, 70-0063-8830-3, 70-0063-8831-1, 70-0063-8904-6, 70-0063-8917-8, 70-0063-9089-5, 70-0063-9090-3, 70-0063-9091-1, 70-0063-9092-9, 70-0063-9093-7, 70-0063-9094-5, 70-0063-9119-0, 70-0063-9150-5, 70-0161-1069-7

#### 1.2. Recommended use and restrictions on use

##### Recommended use

420 lead foil tape is used as a maskant in electroplating applications as well as a moisture and radiation barrier in other applications., Industrial use

#### 1.3. Supplier's details

<b>MANUFACTURER:</b>	3M
<b>DIVISION:</b>	Industrial Adhesives and Tapes Division
<b>ADDRESS:</b>	3M Center, St. Paul, MN 55144-1000, USA
<b>Telephone:</b>	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

Carcinogenicity: Category 2.  
Acute Toxicity (oral): Category 3.  
Reproductive Toxicity: Category 1B.  
Skin Sensitizer: Category 1.  
Specific Target Organ Toxicity (repeated exposure): Category 2.  
Specific Target Organ Toxicity (single exposure): Category 2.

#### 2.2. Label elements

**Signal word**

Danger

### Symbols

Skull and crossbones | Exclamation mark | Health Hazard |

### Pictograms



### Hazard Statements

Toxic if swallowed.  
May cause an allergic skin reaction.  
May damage fertility or the unborn child.  
Suspected of causing cancer.

May cause damage to organs:  
nervous system |

May cause damage to organs through prolonged or repeated exposure:  
blood or blood-forming organs |  
musculoskeletal system |  
nervous system |  
kidney/urinary tract |  
sensory organs |

### Precautionary Statements

#### Prevention:

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe 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 ON SKIN: Wash with plenty of soap and water.  
If skin irritation or rash occurs: Get medical advice/attention.  
Wash contaminated clothing before reuse.  
Rinse mouth.  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
IF exposed or concerned: Get medical advice/attention.

#### Storage:

Store locked up.

#### Disposal:

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

### 2.3. Hazards not otherwise classified

None.

**SECTION 3: Composition/information on ingredients**

Ingredient	C.A.S. No.	% by Wt
Lead Foil Backing	7439-92-1	90 - 99 Trade Secret *
Natural Rubber	9003-31-0	1 - 5 Trade Secret *
Rosin	8050-09-7	0.5 - 1.5 Trade Secret *
Polypropylene Liner	None	Not Applicable

\*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. Get immediate medical attention.

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

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**

Material will not burn. Use a fire fighting agent suitable for the surrounding fire.

**5.2. Special hazards arising from the substance or mixture**

None inherent in this product.

**Hazardous Decomposition or By-Products****Substance**

Carbon monoxide  
Carbon dioxide  
Oxides of Lead

**Condition**

During Combustion  
During Combustion  
During Combustion

**5.3. Special protective actions for fire-fighters**

No unusual fire or explosion hazards are anticipated.

## 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.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

For industrial or professional use only. Do not handle until all safety precautions have been read and understood. Do not breathe 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. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators...) as required.

### 7.2. Conditions for safe storage including any incompatibilities

Store away from oxidizing agents.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Lead Foil Backing	7439-92-1	Amer Conf of Gov. Indust. Hyg.	TWA(as Pb):0.05 mg/m <sup>3</sup>	
Lead Foil Backing	7439-92-1	US Dept of Labor - OSHA	TWA:0.05 mg/m <sup>3</sup>	29 CFR 1910.1025
Rosin	8050-09-7	Amer Conf of Gov. Indust. Hyg.	Limit value not established:	Cntrl all exposr-low as possib, Sensitizer

Amer Conf of Gov. Indust. Hyg. : American Conference of Governmental Industrial Hygienists

American Indust. Hygiene Assoc : American Industrial Hygiene Association

Chemical Manufacturer Rec Guid : Chemical Manufacturer's Recommended Guidelines

US Dept of Labor - 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

**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.

Gloves made from the following material(s) are recommended: 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**

<b>General Physical Form:</b>	Solid
<b>Specific Physical Form:</b>	Tape
<b>Odor, Color, Grade:</b>	silver color, slight smoke rubber odor
<b>Odor threshold</b>	<i>Not Applicable</i>
<b>pH</b>	<i>Not Applicable</i>
<b>Melting point</b>	<i>No Data Available</i>
<b>Boiling Point</b>	<i>Not Applicable</i>
<b>Flash Point</b>	No flash point
<b>Evaporation rate</b>	<i>Not Applicable</i>
<b>Flammability (solid, gas)</b>	Not Classified
<b>Flammable Limits(LEL)</b>	<i>Not Applicable</i>
<b>Flammable Limits(UEL)</b>	<i>Not Applicable</i>
<b>Vapor Pressure</b>	<i>Not Applicable</i>
<b>Vapor Density</b>	<i>Not Applicable</i>
<b>Specific Gravity</b>	<i>Not Applicable</i>
<b>Solubility In Water</b>	<i>Not Applicable</i>
<b>Solubility- non-water</b>	<i>Not Applicable</i>
<b>Partition coefficient: n-octanol/ water</b>	<i>Not Applicable</i>
<b>Autoignition temperature</b>	<i>Not Applicable</i>
<b>Decomposition temperature</b>	<i>Not Applicable</i>
<b>Viscosity</b>	<i>Not Applicable</i>
<b>Volatile Organic Compounds</b>	<i>Not Applicable</i>
<b>Percent volatile</b>	<i>Not Applicable</i>

VOC Less H2O & Exempt Solvents

*No Data Available*

## 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

None known.

### 10.5. Incompatible materials

Strong oxidizing agents

### 10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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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:

No health effects are expected.

#### Skin Contact:

May be harmful in contact with skin.

Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

#### Eye Contact:

Contact with the eyes during product use is not expected to result in significant irritation.

#### Ingestion:

Toxic if swallowed.

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

May cause target organ effects after ingestion.

**Target Organ Effects:**

May accumulate in the body.

**Single exposure may cause:**

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

**Prolonged or repeated exposure may cause:**

Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Hard Tissue Effects: Signs/symptoms may include color changes in the teeth and nails; changes in development of bone, teeth or nails; weakening of the bones; and/or hair loss.

Hematopoietic Effects: Signs/symptoms may include generalized weakness, fatigue and alterations in numbers of circulating blood cells.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

**Reproductive/Developmental Toxicity:**

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Carcinogenicity:**

Contains a chemical or chemicals which can cause cancer.

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Class Description</u>	<u>Regulation</u>
Lead Foil Backing	7439-92-1	Anticipated human carcinogen	National Toxicology Program Carcinogens
Lead Foil Backing	7439-92-1	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

**Additional Information:**

This product, when used under reasonable conditions and in accordance with the 3M directions for use, should not present a health hazard. However, use or processing of the product in a manner not in accordance with the product's directions for use may affect the performance of the product and may present potential health and safety hazards.

**Toxicological Data**

**Acute Toxicity**

<u>Name</u>	<u>Route</u>	<u>Species</u>	<u>Value</u>
Overall product	Dermal		Data not available or insufficient for classification; calculated ATE 2,596.1 mg/kg
Overall product	Ingestion		Data not available or insufficient for classification; calculated ATE 104.9 mg/kg
Lead Foil Backing	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Lead Foil Backing	Ingestion		LD50 estimated to be 50 - 300 mg/kg
Natural Rubber	Dermal		LD50 estimated to be > 5,000 mg/kg
Natural Rubber	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Rosin	Dermal	Rabbit	LD50 > 2,500 mg/kg
Rosin	Ingestion	Rat	LD50 7,600 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
Lead Foil Backing	similar compounds	No significant irritation
Natural Rubber		No significant irritation
Rosin		Data not available or insufficient for classification

**Serious Eye Damage/Irritation**

Name	Species	Value
Lead Foil Backing	similar compounds	Mild irritant
Natural Rubber		No significant irritation
Rosin		Data not available or insufficient for classification

**Skin Sensitization**

Name	Species	Value
Lead Foil Backing		Data not available or insufficient for classification
Natural Rubber	Human	Not sensitizing
Rosin		Data not available or insufficient for classification

**Respiratory Sensitization**

Name	Species	Value
Lead Foil Backing		Data not available or insufficient for classification
Natural Rubber		Data not available or insufficient for classification
Rosin		Data not available or insufficient for classification

**Germ Cell Mutagenicity**

Name	Route	Value
Lead Foil Backing	In vivo	Some positive data exist, but the data are not sufficient for classification
Natural Rubber		Data not available or insufficient for classification
Rosin		Data not available or insufficient for classification

**Carcinogenicity**

Name	Route	Species	Value
Lead Foil Backing	Not Specified	official classification	Carcinogenic
Natural Rubber			Data not available or insufficient for classification
Rosin			Data not available or insufficient for classification

**Reproductive Toxicity****Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
Lead Foil Backing	Not Specified	Toxic to female reproduction	Human	LOAEL 10 ug/dl blood	
Lead Foil Backing	Not Specified	Toxic to male reproduction	Human	LOAEL 37 ug/dl blood	
Lead Foil Backing	Not Specified	Toxic to development	Human	NOAEL Not available	
Natural Rubber		Data not available or insufficient for classification			
Rosin		Data not available or insufficient for classification			

**Target Organ(s)****Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure
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						<b>Duration</b>
Lead Foil Backing	Ingestion	nervous system	May cause damage to organs	Human	LOAEL 90 ug/dl blood	poisoning and/or abuse
Lead Foil Backing	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	poisoning and/or abuse
Natural Rubber			Data not available or insufficient for classification			
Rosin			Data not available or insufficient for classification			

**Specific Target Organ Toxicity - repeated exposure**

<b>Name</b>	<b>Route</b>	<b>Target Organ(s)</b>	<b>Value</b>	<b>Species</b>	<b>Test Result</b>	<b>Exposure Duration</b>
Lead Foil Backing	Inhalation	kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 60 ug/dl blood	occupational exposure
Lead Foil Backing	Inhalation	hematopoietic system	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 50 ug/dl blood	occupational exposure
Lead Foil Backing	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 40 ug/dl blood	occupational exposure
Lead Foil Backing	Inhalation	heart   endocrine system   immune system   vascular system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Lead Foil Backing	Ingestion	bone, teeth, nails, and/or hair	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 20 ug/dl blood	3 months
Lead Foil Backing	Ingestion	eyes	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL .5 mg/kg/day	20 days
Lead Foil Backing	Ingestion	hematopoietic system   kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 40 ug/dl blood	environmental exposure
Lead Foil Backing	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 11 ug/dl blood	environmental exposure
Lead Foil Backing	Ingestion	auditory system   heart   endocrine system   vascular system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	environmental exposure
Natural Rubber			Data not available or insufficient for classification			
Rosin			Data not available or insufficient for classification			

**Aspiration Hazard**

<b>Name</b>	<b>Value</b>
Lead Foil Backing	Not an aspiration hazard
Natural Rubber	Not an aspiration hazard
Rosin	Not an aspiration hazard

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.

EPA Hazardous Waste Number (RCRA): D008 (Lead)

## 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.

#### 311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
Lead Foil Backing	7439-92-1	Trade Secret 90 - 99
Lead Foil Backing (LEAD COMPOUNDS)	7439-92-1	90 - 99

### 15.2. State Regulations

Contact 3M for more information.

#### California Proposition 65

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>
Lead Foil Backing	7439-92-1	Female reproductive toxin
Lead Foil Backing	7439-92-1	Male reproductive toxin
Lead Foil Backing	7439-92-1	Carcinogen
Lead Foil Backing	7439-92-1	Developmental Toxin

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

WARNING: This product contains a chemical known to the State of California to cause cancer.

### 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:** 0 **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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