



Safety Data Sheet

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Document Group:	30-3799-1	Version Number:	2.00
Issue Date:	03/02/15	Supersedes Date:	12/13/12

Product identifier

3M™ Surface Pre-Treatment AC-130-2

ID Number(s):

70-0052-0012-9, 70-0052-0013-7, 70-0052-0016-0, 70-0052-0017-8, 70-0052-0018-6, 70-0052-0019-4, 70-0052-0773-6, 70-0052-2083-8, 70-0052-2084-6, 70-0052-2085-3, 70-0052-2086-1, 70-0052-2087-9, 70-0052-2088-7, 70-0052-2100-0, 70-0052-2101-8, 70-0052-2102-6, 70-0052-2103-4, 70-0052-2104-2, 70-0052-2105-9, 70-0052-2106-7, 70-0052-2107-5, 70-0052-2108-3, 70-0052-2109-1

Recommended use

Metal Adhesion Promoter

Supplier's details

MANUFACTURER: 3M
DIVISION: Aerospace and Commercial Transportation Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:

30-3803-1, 30-3802-3

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Document Group:	30-3803-1	Version Number:	3.00
Issue Date:	03/02/15	Supersedes Date:	03/21/13

SECTION 1: Identification

1.1. Product identifier

3M™ Surface Pre-Treatment AC-130-2 Part B

Product Identification Numbers

LC-B100-1104-9, LC-B100-1105-0, LC-B100-1105-1, LC-B100-1105-2, LC-B100-1148-6, LC-B100-1148-7, 42-0044-2187-3

1.2. Recommended use and restrictions on use

Recommended use

Part B of Metal Adhesion Promoter, For industrial or professional use only.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Aerospace and Commercial Transportation 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

Serious Eye Damage/Irritation: Category 1.

Reproductive Toxicity: Category 2.

Specific Target Organ Toxicity (single exposure): Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Corrosion | Health Hazard |

Pictograms

**Hazard Statements**

Causes serious eye damage.
Suspected of damaging fertility or the unborn child.

Causes damage to organs:
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 and eye/face protection.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see Notes to Physician on this label).

Storage:

Store locked up.

Disposal:

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

Notes to Physician:

This product contains methanol. Methanol poisoning can cause metabolic acidosis, blindness, and death. Onset of signs or symptoms may be delayed for 18 to 24 hours. If methanol poisoning is confirmed, intravenous (IV) administration of ethanol should be considered. Additional pharmacologic and supportive care should be based on the treating physician's judgement.

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
3-(TRIMETHOXY-SILYL)PROPYL GLYCIDYL ETHER	2530-83-8	97 - 100 Trade Secret *
METHYL ALCOHOL	67-56-1	0 - 3 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:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately 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

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

This product contains methanol. Methanol poisoning can cause metabolic acidosis, blindness, and death. Onset of signs or symptoms may be delayed for 18 to 24 hours. If methanol poisoning is confirmed, intravenous (IV) administration of ethanol should be considered. Additional pharmacologic and supportive care should be based on the treating physician's judgement.

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

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. 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. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

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. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from oxidizing agents.

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
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	CMRG	TWA:5 ppm	
METHYL ALCOHOL	67-56-1	ACGIH	TWA:200 ppm;STEL:250 ppm	Skin Notation
METHYL ALCOHOL	67-56-1	OSHA	TWA:260 mg/m ³ (200 ppm)	

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:

Full Face Shield

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.

Gloves made from the following material(s) are recommended: Butyl Rubber
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 supplied-air respirator

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

General Physical Form:	Liquid
Odor, Color, Grade:	Clear liquid; slight odor
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>No Data Available</i>
Boiling Point	<i>No Data Available</i>
Flash Point	>=200 °F [<i>Test Method: Closed Cup</i>]
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Pressure	1 mmHg [<i>@ 20 °C</i>]
Vapor Density	>=1 [<i>Ref Std: AIR=1</i>]
Density	1.07 g/ml
Specific Gravity	1.07 [<i>Ref Std: WATER=1</i>]
Solubility in Water	<i>No Data Available</i>
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>Not Applicable</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	<i>No Data Available</i>
Volatile Organic Compounds	21.4 g/l [<i>Test Method: calculated SCAQMD rule 443.1</i>]
VOC Less H2O & Exempt Solvents	21.4 g/l [<i>Test Method: calculated SCAQMD rule 443.1</i>]

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 polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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.

May cause additional health effects (see below).

Skin Contact:

May be harmful in contact with skin.

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

May be harmful if swallowed.

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

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

May cause blindness.

Reproductive/Developmental Toxicity:

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

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 2,000 - 5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE > 50 mg/l
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Dermal	Rabbit	LD50 4,000 mg/kg
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Rat	LD50 7,010 mg/kg
METHYL ALCOHOL	Dermal		LD50 estimated to be 1,000 - 2,000 mg/kg
METHYL ALCOHOL	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
METHYL ALCOHOL	Ingestion		LD50 estimated to be 50 - 300 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Rabbit	Mild irritant
METHYL ALCOHOL	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Rabbit	Corrosive
METHYL ALCOHOL	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Guinea pig	Some positive data exist, but the data are not sufficient for classification
METHYL ALCOHOL	Guinea pig	Not sensitizing

Respiratory Sensitization

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

Germ Cell Mutagenicity

Name	Route	Value
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	In vivo	Not mutagenic
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	In Vitro	Some positive data exist, but the data are not sufficient for classification
METHYL ALCOHOL	In Vitro	Some positive data exist, but the data are not sufficient for classification
METHYL ALCOHOL	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Dermal	Mouse	Not carcinogenic
METHYL ALCOHOL	Inhalation	Multiple animal species	Not carcinogenic

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

Name	Route	Value	Species	Test Result	Exposure Duration
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not toxic to male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 3,000 mg/kg/day	during organogenesis
METHYL ALCOHOL	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,600 mg/kg/day	21 days
METHYL ALCOHOL	Ingestion	Toxic to development	Mouse	LOAEL 4,000 mg/kg/day	during organogenesis
METHYL ALCOHOL	Inhalation	Toxic to development	Mouse	NOAEL 1.3 mg/l	during organogenesis

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

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
METHYL ALCOHOL	Inhalation	blindness	Causes damage to organs	Human	NOAEL Not available	occupational exposure
METHYL ALCOHOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
METHYL ALCOHOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 hours
METHYL ALCOHOL	Ingestion	blindness	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
METHYL ALCOHOL	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	heart endocrine system bone, teeth, nails, and/or hair hematopoietic system liver immune system nervous system kidney and/or bladder respiratory system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days
METHYL ALCOHOL	Inhalation	liver	All data are negative	Rat	NOAEL 6.55 mg/l	4 weeks
METHYL ALCOHOL	Inhalation	respiratory system	All data are negative	Rat	NOAEL 13.1 mg/l	6 weeks
METHYL ALCOHOL	Ingestion	liver nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	90 days

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 completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

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>
METHYL ALCOHOL	67-56-1	0 - 3

15.2. State Regulations

Contact 3M for more information.

California Proposition 65

Ingredient

METHYL ALCOHOL

C.A.S. No.

67-56-1

Classification

Developmental Toxin

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

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

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: 3 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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Issue Date:	03/02/15	Supersedes Date:	05/14/13

SECTION 1: Identification

1.1. Product identifier

3M™ Surface Pre-Treatment AC-130-2 Part A

Product Identification Numbers

LC-B100-1104-5, LC-B100-1104-6, LC-B100-1104-7, LC-B100-1104-8, LC-B100-1148-4, LC-B100-1148-5

1.2. Recommended use and restrictions on use

Recommended use

Part A of Metal Adhesion Promoter, For industrial or professional use only.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Aerospace and Commercial Transportation 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

Specific Target Organ Toxicity (respiratory irritation): Category 3.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms



Hazard Statements

May cause respiratory irritation.

Precautionary Statements**Prevention:**

Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
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
WATER	7732-18-5	98 - 99
ZIRCONIUM N-PROPOXIDE	23519-77-9	< 1
ACETIC ACID	64-19-7	< 0.5 Trade Secret *
PROPYL ALCOHOL	71-23-8	< 0.5

*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:

Wash with soap and water. 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

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

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. 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. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

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
ZIRCONIUM COMPOUNDS	23519-77-9	ACGIH	TWA(as Zr):5 mg/m3;STEL(as Zr):10 mg/m3	A4: Not class. as human carcin
ZIRCONIUM COMPOUNDS	23519-77-9	OSHA	TWA(as Zr):5 mg/m3	
ACETIC ACID	64-19-7	ACGIH	TWA:10 ppm;STEL:15 ppm	
ACETIC ACID	64-19-7	OSHA	TWA:25 mg/m3(10 ppm)	
PROPYL ALCOHOL	71-23-8	ACGIH	TWA:100 ppm	A4: Not class. as human carcin
PROPYL ALCOHOL	71-23-8	OSHA	TWA:500 mg/m3(200 ppm)	

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

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: Nitrile Rubber

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

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

General Physical Form:

Liquid

Odor, Color, Grade:

Vinegar-like odor; Clear liquid

Odor threshold

No Data Available

pH	3.5 - 4
Melting point	No Data Available
Boiling Point	No Data Available
Flash Point	>=200 °F [Test Method: Closed Cup]
Evaporation rate	No Data Available
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Vapor Pressure	No Data Available
Vapor Density	No Data Available
Specific Gravity	1.0 [Ref Std: WATER=1]
Solubility in Water	Complete
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	Not Applicable
Decomposition temperature	No Data Available
Viscosity	No Data Available
VOC Less H2O & Exempt Solvents	530.2 g/l [Test Method: calculated SCAQMD rule 443.1]

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 polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Substance

None known.

Condition

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:

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

Eye Contact:

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

Ingestion:

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

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 > 5,000 mg/kg
ACETIC ACID	Dermal	Rabbit	LD50 1,060 mg/kg
ACETIC ACID	Inhalation-Vapor (4 hours)	Rat	LC50 11.4 mg/l
ACETIC ACID	Ingestion	Rat	LD50 3,310 mg/kg
PROPYL ALCOHOL	Dermal	Rabbit	LD50 4,000 mg/kg
PROPYL ALCOHOL	Inhalation-Vapor (4 hours)	Rat	LC50 > 34 mg/l
PROPYL ALCOHOL	Ingestion	Rat	LD50 estimated to be 2,000 - 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
ACETIC ACID	Rabbit	Corrosive
PROPYL ALCOHOL	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
ZIRCONIUM N-PROPOXIDE	Professional judgement	Mild irritant
ACETIC ACID	Rabbit	Corrosive
PROPYL ALCOHOL	Rabbit	Severe irritant

Skin Sensitization

Name	Species	Value
PROPYL ALCOHOL	Guinea pig	Not sensitizing

Respiratory Sensitization

Name	Species	Value
ACETIC ACID	Human	Some positive data exist, but the data are not sufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
ACETIC ACID	In Vitro	Not mutagenic
PROPYL ALCOHOL	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
ACETIC ACID	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
ACETIC ACID	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
PROPYL ALCOHOL	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification

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

Name	Route	Value	Species	Test Result	Exposure Duration
ACETIC ACID	Ingestion	Not toxic to development	Rat	NOAEL 80 mg/kg/day	during gestation
PROPYL ALCOHOL	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 8.6 mg/l	6 weeks
PROPYL ALCOHOL	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 8.6 mg/l	during gestation

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

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
ZIRCONIUM N-PROPOXIDE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
ACETIC ACID	Inhalation	respiratory system	Causes damage to organs	Human	NOAEL Not available	not applicable
ACETIC ACID	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	occupational exposure
ACETIC ACID	Ingestion	blood kidney and/or bladder	Causes damage to organs	Human	NOAEL Not available	not applicable
PROPYL ALCOHOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Mouse	NOAEL 5 mg/l	4 hours
PROPYL ALCOHOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
PROPYL ALCOHOL	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 70 mg/kg/day	83 weeks
PROPYL ALCOHOL	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 70 mg/kg/day	83 weeks

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 completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

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 - No

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

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: 1 **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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