Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier
3M Scotchkote Epoxy Coating EP2306HF, Red Oxide (Part A)

Product Identification Numbers
GR-2001-0419-2, GR-2001-0420-0, GR-2001-0423-4

1.2. Recommended use and restrictions on use

Recommended use
Coating, Base Part of a 2 Part Internal Gas Line Coating System, Industrial use

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	3M United Kingdom Infrastructure Protection 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
Flammable Liquid: Category 3.
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1A.
Aspiration Hazard: Category 1.
Carcinogenicity: Category 1A.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Flame | Corrosion | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Flammable liquid and vapor.

Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
May cause cancer.

Causes damage to organs:
sensory organs |

Causes damage to organs through prolonged or repeated exposure:
nervous system |
respiratory system |

May cause damage to organs through prolonged or repeated exposure:
sensory organs |

Precautionary Statements

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Keep container tightly closed.
Use explosion-proof electrical/ventilating/lighting equipment.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves and eye/face protection.
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 INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.

Do NOT induce vomiting.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:
Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.

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

2.3. Hazards not otherwise classified
Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

49% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
XYLENE	1330-20-7	20 - 30 Trade Secret *
FATTY ACIDS, TALL-OIL, POLYMERS with C18-unsatd. FATTY ACID DIMERS and TRIETHYLENETETRAMINE	68082-29-1	15 - 25 Trade Secret *
IRON OXIDE (Fe203)	1309-37-1	10 - 20 Trade Secret *
NON-HAZARDOUS INGREDIENTS	Mixture	5 - 15
TALC	14807-96-6	5 - 15 Trade Secret *
BUTYL ALCOHOL	71-36-3	5 - 10 Trade Secret *
BUTYLATED UREA-FORMALDEHYDE RESIN	68002-19-7	1 - 5 Trade Secret *
ETHYLBENZENE	100-41-4	1 - 5 Trade Secret *
TRIETHYLENETETRAMINE	112-24-3	< 1 Trade Secret *
QUARTZ SILICA	14808-60-7	< 1 Trade Secret *
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	64742-82-1	< 1 Trade Secret *
FORMALDEHYDE	50-00-0	< 0.02 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:
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:
Do not induce vomiting. 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
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. 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 using non-sparking tools. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. 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. 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. Keep

away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. 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.) Wear low static or properly grounded shoes. Use personal protective equipment (gloves, respirators, etc.) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidizing agents. Store away from amines.

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
ETHYLBENZENE	100-41-4	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin.
ETHYLBENZENE	100-41-4	CMRG	TWA:25 ppm;STEL:75 ppm	
ETHYLBENZENE	100-41-4	OSHA	TWA:435 mg/m3(100 ppm)	
TRIETHYLENETETRAMINE	112-24-3	AIHA	TWA:6 mg/m3(1 ppm)	Skin Notation
IRON OXIDE (Fe203)	1309-37-1	ACGIH	TWA(respirable fraction):5 mg/m3	A4: Not class. as human carcin
IRON OXIDE (Fe203)	1309-37-1	OSHA	TWA(as fume):10 mg/m3	
XYLENE	1330-20-7	ACGIH	TWA:100 ppm;STEL:150 ppm	A4: Not class. as human carcin
XYLENE	1330-20-7	CMRG	TWA:50 ppm;STEL:75 ppm	
XYLENE	1330-20-7	OSHA	TWA:435 mg/m3(100 ppm)	
TALC	14807-96-6	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin
TALC	14807-96-6	CMRG	TWA(as respirable dust):0.5 mg/m3	
TALC	14807-96-6	OSHA	TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.);TWA:20 millions of particles/cu. ft.	
QUARTZ SILICA	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
QUARTZ SILICA	14808-60-7	OSHA	TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.)	
FORMALDEHYDE	50-00-0	ACGIH	CEIL:0.3 ppm	A2: Suspected human carcin., Sensitizer

FORMALDEHYDE	50-00-0	CMRG	TWA:0.5 ppm	
FORMALDEHYDE	50-00-0	OSHA	TWA:0.75 ppm;STEL:2 ppm	29 CFR 1910.1048
Stoddard solvent	64742-82-1	ACGIH	TWA:100 ppm	
Stoddard solvent	64742-82-1	OSHA	TWA:2900 mg/m3(500 ppm)	
BUTYL ALCOHOL	71-36-3	ACGIH	TWA:20 ppm	
BUTYL ALCOHOL	71-36-3	OSHA	TWA:300 mg/m3(100 ppm)	
NON-HAZARDOUS INGREDIENTS	Mixture	CMRG	CEIL: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. Use explosion-proof ventilation 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. 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

General Physical Form:	Liquid
Specific Physical Form:	Thixotropic Liquid
Odor, Color, Grade:	Pungent aromatic odor Red Oxide Color.
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point	*Not Applicable*
Boiling Point	>=117 ºC
Flash Point	23.5 ºC [*Test Method:* Closed Cup]
Evaporation rate	*No Data Available*
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	1.0 % volume
Flammable Limits(UEL)	11.2 % volume
Vapor Pressure	7.62 mmHg [@ 25 ºC] [*Test Method:* Calculated] [*Details:* Calculated Raoult's Law (25C)]
Vapor Density	3.7 [*Test Method:* Estimated] [*Ref Std:* AIR=1]
Density	1.3 g/ml
Specific Gravity	1.3 [*Ref Std:* WATER=1]
Solubility in Water	Negligible
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	>=400 ºC
Decomposition temperature	*No Data Available*
Viscosity	*No Data Available*
Volatile Organic Compounds	440 g/l [*Test Method:* Estimated] [*Details:* EU Definition (Part A & B mix)]
Percent volatile	37 % weight

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
Sparks and/or flames
Temperatures above the boiling point

10.5. Incompatible materials
Amines
Combustibles
Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.
Strong acids
Strong bases
Strong oxidizing agents

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:
May be harmful if inhaled.
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:
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

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:
Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish colored skin (cyanosis), and may be fatal.

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:
Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause target organ effects:
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

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.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
SILICA, CRYS AIRRESP	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens
ETHYLBENZENE	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
FORMALDEHYDE	50-00-0	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
FORMALDEHYDE	50-00-0	Known human carcinogen	National Toxicology Program Carcinogens
FORMALDEHYDE	50-00-0	Cancer hazard	OSHA Carcinogens
QUARTZ SILICA	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

Additional Information:
Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

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	Inhalation-Vapor(4 hr)		No data available; calculated ATE 20 - 50 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
XYLENE	Dermal	Rabbit	LD50 > 4,200 mg/kg
XYLENE	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
XYLENE	Ingestion	Rat	LD50 3,523 mg/kg
FATTY ACIDS, TALL-OIL, POLYMERS with C18-unsatd. FATTY ACID DIMERS and TRIETHYLENETETRAMINE	Dermal	Rat	LD50 > 2,000 mg/kg
FATTY ACIDS, TALL-OIL, POLYMERS with C18-unsatd. FATTY ACID DIMERS and TRIETHYLENETETRAMINE	Ingestion	Rat	LD50 > 5,000 mg/kg
IRON OXIDE (Fe203)	Dermal	Not available	LD50 3,100 mg/kg
IRON OXIDE (Fe203)	Ingestion	Not available	LD50 3,700 mg/kg
TALC	Dermal		LD50 estimated to be > 5,000 mg/kg
TALC	Ingestion		LD50 estimated to be > 5,000 mg/kg
BUTYL ALCOHOL	Dermal	Rabbit	LD50 3,402 mg/kg
BUTYL ALCOHOL	Inhalation-Vapor (4 hours)	Rat	LC50 24 mg/l
BUTYL ALCOHOL	Ingestion	Rat	LD50 2,290 mg/kg
ETHYLBENZENE	Dermal	Rabbit	LD50 15,433 mg/kg
ETHYLBENZENE	Inhalation-Vapor (4 hours)	Rat	LC50 17.4 mg/l
ETHYLBENZENE	Ingestion	Rat	LD50 4,769 mg/kg
BUTYLATED UREA-FORMALDEHYDE RESIN	Dermal	Rabbit	LD50 > 5,000 mg/kg
BUTYLATED UREA-FORMALDEHYDE RESIN	Ingestion	Rat	LD50 > 5,000 mg/kg
NON-HAZARDOUS INGREDIENTS	Dermal	Rabbit	LD50 > 5,000 mg/kg
NON-HAZARDOUS INGREDIENTS	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
NON-HAZARDOUS INGREDIENTS	Ingestion	Rat	LD50 > 5,110 mg/kg
TRIETHYLENETETRAMINE	Dermal	Rabbit	LD50 550 mg/kg
TRIETHYLENETETRAMINE	Ingestion	Rat	LD50 2,500 mg/kg
NAPHTHA (PETROLEUM), HYDRODESULFURIZED	Inhalation-		LC50 estimated to be 20 - 50 mg/l

HEAVY	Vapor		
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Dermal	Rabbit	LD50 > 3,000 mg/kg
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Ingestion	Rat	LD50 > 5,000 mg/kg
QUARTZ SILICA	Dermal		LD50 estimated to be > 5,000 mg/kg
QUARTZ SILICA	Ingestion		LD50 estimated to be > 5,000 mg/kg
FORMALDEHYDE	Dermal	Rabbit	LD50 270 mg/kg
FORMALDEHYDE	Inhalation-Gas (4 hours)	Rat	LC50 470 ppm
FORMALDEHYDE	Ingestion	Rat	LD50 800 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
XYLENE	Rabbit	Mild irritant
FATTY ACIDS, TALL-OIL, POLYMERS with C18-unsatd. FATTY ACID DIMERS and TRIETHYLENETETRAMINE	In vitro data	Irritant
IRON OXIDE (Fe203)	Rabbit	No significant irritation
TALC	Rabbit	No significant irritation
BUTYL ALCOHOL	Rabbit	Mild irritant
ETHYLBENZENE	Rabbit	Mild irritant
NON-HAZARDOUS INGREDIENTS	Rabbit	No significant irritation
TRIETHYLENETETRAMINE	Rabbit	Corrosive
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Rabbit	Irritant
QUARTZ SILICA	Professional judgement	No significant irritation
FORMALDEHYDE	official classification	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
XYLENE	Rabbit	Mild irritant
FATTY ACIDS, TALL-OIL, POLYMERS with C18-unsatd. FATTY ACID DIMERS and TRIETHYLENETETRAMINE	Rabbit	Corrosive
IRON OXIDE (Fe203)	Rabbit	No significant irritation
TALC	Rabbit	No significant irritation
BUTYL ALCOHOL	Rabbit	Severe irritant
ETHYLBENZENE	Rabbit	Moderate irritant
NON-HAZARDOUS INGREDIENTS	Rabbit	No significant irritation
TRIETHYLENETETRAMINE	Rabbit	Corrosive
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Rabbit	No significant irritation
FORMALDEHYDE	official classification	Corrosive

Skin Sensitization

Name	Species	Value
FATTY ACIDS, TALL-OIL, POLYMERS with C18-unsatd. FATTY ACID DIMERS and TRIETHYLENETETRAMINE	Mouse	Sensitizing
IRON OXIDE (Fe203)	Human	Some positive data exist, but the data are not sufficient for classification
BUTYL ALCOHOL	Human	Not sensitizing
ETHYLBENZENE	Human	Not sensitizing
NON-HAZARDOUS INGREDIENTS	Human and animal	Not sensitizing
TRIETHYLENETETRAMINE	Guinea pig	Sensitizing
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Guinea	Not sensitizing

	pig	
FORMALDEHYDE	Guinea pig	Sensitizing

Respiratory Sensitization

Name	Species	Value
TALC	Human	Not sensitizing
FORMALDEHYDE	Human	Some positive data exist, but the data are not sufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
XYLENE	In Vitro	Not mutagenic
XYLENE	In vivo	Not mutagenic
IRON OXIDE (Fe203)	In Vitro	Not mutagenic
TALC	In Vitro	Not mutagenic
TALC	In vivo	Not mutagenic
BUTYL ALCOHOL	In vivo	Not mutagenic
BUTYL ALCOHOL	In Vitro	Some positive data exist, but the data are not sufficient for classification
ETHYLBENZENE	In vivo	Not mutagenic
ETHYLBENZENE	In Vitro	Some positive data exist, but the data are not sufficient for classification
NON-HAZARDOUS INGREDIENTS	In Vitro	Not mutagenic
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	In vivo	Not mutagenic
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	In Vitro	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	In Vitro	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	In vivo	Some positive data exist, but the data are not sufficient for classification
FORMALDEHYDE	In Vitro	Some positive data exist, but the data are not sufficient for classification
FORMALDEHYDE	In vivo	Mutagenic

Carcinogenicity

Name	Route	Species	Value
XYLENE	Dermal	Rat	Not carcinogenic
XYLENE	Ingestion	Multiple animal species	Not carcinogenic
XYLENE	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
IRON OXIDE (Fe203)	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
TALC	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
ETHYLBENZENE	Inhalation	Multiple animal species	Carcinogenic
NON-HAZARDOUS INGREDIENTS	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Inhalation	Human and animal	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	Inhalation	Human and animal	Carcinogenic
FORMALDEHYDE	Not Specified	Human and animal	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
XYLENE	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
XYLENE	Ingestion	Not toxic to male reproduction	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
XYLENE	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
XYLENE	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	during organogenesis
XYLENE	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	during gestation
TALC	Ingestion	Not toxic to development	Rat	NOAEL 1,600 mg/kg	during organogenesis
BUTYL ALCOHOL	Ingestion	Not toxic to female reproduction	Rat	NOAEL 5,000 mg/kg/day	premating & during gestation
BUTYL ALCOHOL	Ingestion	Not toxic to male reproduction	Rat	NOAEL 500 mg/kg/day	4 days
BUTYL ALCOHOL	Inhalation	Not toxic to male reproduction	Rat	NOAEL 18 mg/l	6 weeks
BUTYL ALCOHOL	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 10.6 mg/l	during gestation
ETHYLBENZENE	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 4.3 mg/l	premating & during gestation
NON-HAZARDOUS INGREDIENTS	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
NON-HAZARDOUS INGREDIENTS	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
NON-HAZARDOUS INGREDIENTS	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Inhalation	Not toxic to development	Rat	NOAEL 2.4 mg/l	during organogenesis
FORMALDEHYDE	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 100 mg/kg	not applicable
FORMALDEHYDE	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 10 ppm	during gestation

Lactation

Name	Route	Species	Value
XYLENE	Ingestion	Mouse	Does not cause effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
XYLENE	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
XYLENE	Inhalation	central nervous	May cause drowsiness or	Human	NOAEL Not	

		system depression	dizziness		available	
XYLENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
XYLENE	Inhalation	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.5 mg/l	not available
XYLENE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
XYLENE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
XYLENE	Ingestion	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg	not applicable
BUTYL ALCOHOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
BUTYL ALCOHOL	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
BUTYL ALCOHOL	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
ETHYLBENZENE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
ETHYLBENZENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 6.5 mg/l	4 hours
FORMALDEHYDE	Inhalation	respiratory system	Causes damage to organs	Rat	LOAEL 128 ppm	6 hours
FORMALDEHYDE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
XYLENE	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/l	4 weeks
XYLENE	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
XYLENE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
XYLENE	Inhalation	heart | endocrine system | hematopoietic system | muscles | kidney and/or bladder | respiratory system	All data are negative	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
XYLENE	Ingestion	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	2 weeks

XYLENE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,500 mg/kg/day	90 days
XYLENE	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
XYLENE	Ingestion	heart | skin | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | immune system | nervous system | respiratory system	All data are negative	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
IRON OXIDE (Fe203)	Inhalation	pulmonary fibrosis | pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
TALC	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
TALC	Inhalation	pulmonary fibrosis | respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 18 mg/m3	113 weeks
BUTYL ALCOHOL	Inhalation	blood	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.3 mg/l	3 months
BUTYL ALCOHOL	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
BUTYL ALCOHOL	Inhalation	liver | kidney and/or bladder | respiratory system	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 months
BUTYL ALCOHOL	Inhalation	nervous system	All data are negative	Rat	NOAEL 9.09 mg/l	13 weeks
BUTYL ALCOHOL	Ingestion	blood	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 500 mg/kg/day	13 weeks
ETHYLBENZENE	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	2 years
ETHYLBENZENE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	103 weeks
ETHYLBENZENE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.4 mg/l	28 days
ETHYLBENZENE	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.4 mg/l	5 days
ETHYLBENZENE	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3.3 mg/l	103 weeks
ETHYLBENZENE	Inhalation	bone, teeth, nails, and/or hair | muscles	All data are negative	Multiple animal species	NOAEL 4.2 mg/l	90 days
ETHYLBENZENE	Inhalation	heart | immune system | respiratory system	All data are negative	Multiple animal species	NOAEL 3.3 mg/l	2 years
ETHYLBENZENE	Ingestion	liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 680 mg/kg/day	6 months
NON-HAZARDOUS INGREDIENTS	Inhalation	respiratory system | silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 4.6 mg/l	6 months

NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.9 mg/l	13 weeks
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0.6 mg/l	90 days
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Inhalation	bone, teeth, nails, and/or hair | blood | liver | muscles	All data are negative	Rat	NOAEL 5.6 mg/l	12 weeks
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	Inhalation	heart	All data are negative	Multiple animal species	NOAEL 1.3 mg/l	90 days
QUARTZ SILICA	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
FORMALDEHYDE	Dermal	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 80 mg/kg/day	60 weeks
FORMALDEHYDE	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.3 ppm	28 months
FORMALDEHYDE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 20 ppm	13 weeks
FORMALDEHYDE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 15 ppm	3 weeks
FORMALDEHYDE	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 10 ppm	13 weeks
FORMALDEHYDE	Inhalation	endocrine system | immune system | muscles | kidney and/or bladder	All data are negative	Rat	NOAEL 15 ppm	28 months
FORMALDEHYDE	Inhalation	eyes | vascular system	All data are negative	Rat	NOAEL 14.3 ppm	2 years
FORMALDEHYDE	Inhalation	heart	All data are negative	Mouse	NOAEL 14.3 ppm	2 years
FORMALDEHYDE	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 300 mg/kg/day	2 years
FORMALDEHYDE	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 20 mg/kg/day	4 weeks
FORMALDEHYDE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 15 mg/kg/day	24 months
FORMALDEHYDE	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 109 mg/kg/day	2 years
FORMALDEHYDE	Ingestion	heart | endocrine system | hematopoietic system | respiratory system | vascular system	All data are negative	Rat	NOAEL 300 mg/kg/day	2 years
FORMALDEHYDE	Ingestion	skin | muscles | eyes	All data are negative	Rat	NOAEL 109 mg/kg/day	2 years

Aspiration Hazard

Name	Value
XYLENE	Aspiration hazard
BUTYL ALCOHOL	Some positive data exist, but the data are not sufficient for classification

ETHYLBENZENE	Aspiration hazard
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY	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.

Incinerate uncured product in a permitted waste incineration facility. 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): D001 (Ignitable), 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 - Yes 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):

Ingredient	C.A.S. No	% by Wt
BUTYL ALCOHOL	71-36-3	5 - 10
XYLENE	1330-20-7	20 - 30
XYLENE (Benzene, 1,2-dimethyl-)	1330-20-7	20 - 30
XYLENE (Benzene, 1,3-dimethyl-)	1330-20-7	20 - 30
XYLENE (Benzene, 1,4-dimethyl-)	1330-20-7	20 - 30
XYLENE (Benzene, dimethyl-)	1330-20-7	20 - 30
ETHYLBENZENE	100-41-4	1 - 5

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
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 product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

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:** 3 **Instability:** 1 **Special Hazards:** None
Corrosive: No

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.

HMIS Hazard Classification
Health: *3 **Flammability:** 3 **Physical Hazard:** 1 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

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