Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier
3M™ Roll Coat Color 4816V Brown

Product Identification Numbers
42-0007-7475-4, 75-0299-5488-2
7010388516

1.2. Recommended use and restrictions on use

Recommended use
Roll Coat

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Commercial Branding and 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
Flammable Liquid: Category 3.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1.
Carcinogenicity: Category 1A.
Reproductive Toxicity: Category 2.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements
Signal word
Danger

Symbols

Flame |Exclamation mark |Health Hazard |

Pictograms



Hazard Statements
Flammable liquid and vapor.

Causes skin irritation.
May cause an allergic skin reaction.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
Causes damage to organs: sensory organs.

Causes damage to organs through prolonged or repeated exposure: nervous 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical, ventilating and lighting equipment.
Use non-sparking tools.
Take action to prevent static discharges.
Do not breathe vapors.
Wash exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves, eye protection, face protection, and if needed, respiratory protection (see SDS Section 8).

Response:
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Call a POISON CENTER or doctor.
Get medical attention if you feel unwell.
If skin irritation or rash occurs: Get medical attention.
Take off contaminated clothing and wash it before reuse.
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 cool.
Store locked up.

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

60% of the mixture consists of ingredients of unknown acute oral toxicity.
60% of the mixture consists of ingredients of unknown acute dermal toxicity.
60% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Alkyd Resin	None	45 - 70
Heavy aromatic solvent naphtha (petroleum)	64742-48-9	10 - 30 Trade Secret *
Hydrotreated light petroleum distillates	64742-47-8	10 - 30 Trade Secret *
Titanium dioxide	13463-67-7	5 - 10 Trade Secret *
Alkyl amine polymer (NJ TSR # 04499600-5252P)	Trade Secret*	5 - 10
Organic pigment (NJ TSR # 04499600-5248P)	Trade Secret*	3 - 7
NONANE	111-84-2	0.5 - 5 Trade Secret *
Butyl Alcohol	71-36-3	0.5 - 1.5 Trade Secret *
Xylene	1330-20-7	0.1 - 1.5 Trade Secret *
Nickel, 5, 5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	68511-62-6	0.1 - 1 Trade Secret *
Pine oil	8002-09-3	0.1 - 1 Trade Secret *
Ethylbenzene	100-41-4	< 0.3
1,10-PHENANTHROLINE	66-71-7	< 0.1
Formaldehyde	50-00-0	< 0.1
MALEIC ANHYDRIDE	108-31-6	< 0.008

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

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

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

Allergic skin reaction (redness, swelling, blistering, and itching). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details. Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. 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. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

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. Cover spill area with a fire-extinguishing foam. 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 metal 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 in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. 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. Store away from acids. 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
Ethylbenzene	100-41-4	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin., Ototoxicant
Ethylbenzene	100-41-4	OSHA	TWA:435 mg/m3(100 ppm)	
MALEIC ANHYDRIDE	108-31-6	ACGIH	TWA(inhalable fraction and vapor):0.01 mg/m3	A4: Not class. as human carcin, Dermal/Respiratory Sensitizer
MALEIC ANHYDRIDE	108-31-6	OSHA	TWA:1 mg/m3(0.25 ppm)	
NONANE	111-84-2	ACGIH	TWA:200 ppm	
Xylene	1330-20-7	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Xylene	1330-20-7	OSHA	TWA:435 mg/m3(100 ppm)	
Titanium dioxide	13463-67-7	ACGIH	TWA(Respirable nanoscale particles):0.2 mg/m3;TWA(Respirable finescale particles):2.5 mg/m3	A3: Confirmed animal carcin.
Titanium dioxide	13463-67-7	OSHA	TWA(as total dust):15 mg/m3	
Formaldehyde	50-00-0	ACGIH	TWA:0.1 ppm;STEL:0.3 ppm	A1: Confirmed human carcin., Dermal/Respiratory Sensitizer
Formaldehyde	50-00-0	OSHA	TWA:0.75 ppm;STEL:2 ppm	29 CFR 1910.1048
Mineral oil, excluding metal working fluids, pure, highly and severely refined, inhalable fraction	64742-47-8	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcin
NICKEL, METAL AND INSOLUBLE COMPOUNDS, AS /NI/	68511-62-6	OSHA	TWA(as Ni):1 mg/m3	
Butyl Alcohol	71-36-3	ACGIH	TWA:20 ppm	
Butyl Alcohol	71-36-3	OSHA	TWA:300 mg/m3(100 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. Use explosion-proof ventilation equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
None required.

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 (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

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
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

Physical state	Liquid
Specific Physical Form:	Liquid
Color	Brown
Odor	Slight Amine
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*Not Applicable*
Boiling point/Initial boiling point/Boiling range	>=117.2 ºC
Flash Point	42.8 ºC [*Test Method:*Tagliabue Closed Cup]
Evaporation rate	*No Data Available*

Flammability	Flammable Liquid: Category 3.
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	<=5.1 mmHg [@ 68 ºF]
Relative Vapor Density	*No Data Available*
Density	0.8 g/ml
Relative Density	0.8 [*Ref Std:*WATER=1]
Water solubility	10 Slight (less than 10%)
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Kinematic Viscosity	5,625 mm2/sec
Volatile Organic Compounds	275 - 375 g/l
Percent volatile	Approximately 33 % weight
VOC Less H2O & Exempt Solvents	*No Data Available*

Particle Characteristics	*Not Applicable*

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
Sparks and/or flames

10.5. Incompatible materials
Strong acids
Strong oxidizing agents

Aluminum and Zinc

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.

May cause additional health effects (see below).

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.

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:
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.

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.

Ingredient	CAS No.	Class Description	Regulation
Nickel Compounds (except alloys)	68511-62-6	Known To Be Human Carcinogen.	National Toxicology Program Carcinogens
Nickel compounds	68511-62-6	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Ethylbenzene	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Formaldehyde	50-00-0	Known To Be Human Carcinogen.	National Toxicology Program Carcinogens
Formaldehyde	50-00-0	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
FORMALDEHYDE	50-00-0	Cancer hazard	OSHA Carcinogens
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Overall product	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
Hydrotreated light petroleum distillates	Inhalation-Vapor	Professional judgement	LC50 estimated to be 20 - 50 mg/l
Hydrotreated light petroleum distillates	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 3 mg/l
Hydrotreated light petroleum distillates	Ingestion	Rat	LD50 > 5,000 mg/kg
Hydrotreated light petroleum distillates	Dermal	similar compounds	LD50 > 2,000 mg/kg
Heavy aromatic solvent naphtha (petroleum)	Inhalation-Vapor		LC50 estimated to be 20 - 50 mg/l
Heavy aromatic solvent naphtha (petroleum)	Dermal	Rabbit	LD50 > 3,000 mg/kg
Heavy aromatic solvent naphtha (petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Alkyl amine polymer (NJ TSR # 04499600-5252P)	Dermal	Rabbit	LD50 10,960 mg/kg
Alkyl amine polymer (NJ TSR # 04499600-5252P)	Ingestion	Rat	LD50 13,480 mg/kg
Organic pigment (NJ TSR # 04499600-5248P)	Dermal	Rabbit	LD50 > 2,000 mg/kg
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	Rat	LD50 > 5,000 mg/kg
NONANE	Inhalation-Vapor (4 hours)	Rat	LC50 17 mg/l
NONANE	Dermal	similar compounds	LD50 > 2,000 mg/kg
NONANE	Ingestion	similar compounds	LD50 > 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
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
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
Nickel, 5, 5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Nickel, 5, 5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.222 mg/l
Nickel, 5, 5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Ingestion	Rat	LD50 > 5,000 mg/kg

Pine oil	Dermal	Rat	LD50 > 2,000 mg/kg
Pine oil	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.76 mg/l
Pine oil	Ingestion	Rat	LD50 > 2,000 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
1,10-PHENANTHROLINE	Dermal		estimated to be > 5,000 mg/kg
1,10-PHENANTHROLINE	Inhalation-Dust/Mist		estimated to be > 12.5 mg/l
1,10-PHENANTHROLINE	Ingestion		estimated to be 50 - 300 mg/kg
MALEIC ANHYDRIDE	Dermal	Rabbit	LD50 2,620 mg/kg
MALEIC ANHYDRIDE	Ingestion	Rat	LD50 1,030 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Hydrotreated light petroleum distillates	Rabbit	Irritant
Heavy aromatic solvent naphtha (petroleum)	Rabbit	Irritant
Titanium dioxide	Rabbit	No significant irritation
Alkyl amine polymer (NJ TSR # 04499600-5252P)	Rabbit	Mild irritant
Organic pigment (NJ TSR # 04499600-5248P)	Rabbit	No significant irritation
NONANE	similar compounds	No significant irritation
Butyl Alcohol	Rabbit	Mild irritant
Xylene	Rabbit	Mild irritant
Ethylbenzene	Rabbit	Mild irritant
Nickel, 5, 5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Rabbit	No significant irritation
Pine oil	Rabbit	Irritant
Formaldehyde	official classification	Corrosive
MALEIC ANHYDRIDE	Human and animal	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Hydrotreated light petroleum distillates	Rabbit	Mild irritant
Heavy aromatic solvent naphtha (petroleum)	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Alkyl amine polymer (NJ TSR # 04499600-5252P)	Rabbit	No significant irritation
Organic pigment (NJ TSR # 04499600-5248P)	Rabbit	No significant irritation
NONANE	similar compounds	Mild irritant
Butyl Alcohol	Rabbit	Severe irritant
Xylene	Rabbit	Mild irritant
Ethylbenzene	Rabbit	Moderate irritant
Nickel, 5, 5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Rabbit	No significant irritation
Pine oil	Rabbit	Moderate irritant
Formaldehyde	official classification	Corrosive
MALEIC ANHYDRIDE	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
Hydrotreated light petroleum distillates	Guinea pig	Not classified
Heavy aromatic solvent naphtha (petroleum)	Guinea pig	Not classified
Titanium dioxide	Human and animal	Not classified
Organic pigment (NJ TSR # 04499600-5248P)	Multiple animal species	Not classified
NONANE	similar compounds	Not classified
Butyl Alcohol	Human	Not classified
Ethylbenzene	Human	Not classified
Nickel, 5, 5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	similar compounds	Sensitizing
Pine oil	Human and animal	Not classified
Formaldehyde	Guinea pig	Sensitizing
MALEIC ANHYDRIDE	Multiple animal species	Sensitizing

Respiratory Sensitization

Name	Species	Value
Formaldehyde	Human	Some positive data exist, but the data are not sufficient for classification
MALEIC ANHYDRIDE	Human	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
Hydrotreated light petroleum distillates	In Vitro	Not mutagenic
Heavy aromatic solvent naphtha (petroleum)	In vivo	Not mutagenic
Heavy aromatic solvent naphtha (petroleum)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
Organic pigment (NJ TSR # 04499600-5248P)	In Vitro	Not mutagenic
Organic pigment (NJ TSR # 04499600-5248P)	In vivo	Not mutagenic
NONANE	In Vitro	Not mutagenic
Butyl Alcohol	In vivo	Not mutagenic
Butyl Alcohol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Xylene	In Vitro	Not mutagenic
Xylene	In vivo	Not mutagenic
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not sufficient for classification
Nickel, 5, 5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	In Vitro	Not mutagenic
Pine oil	In Vitro	Not mutagenic
Formaldehyde	In Vitro	Some positive data exist, but the data are not sufficient for classification
Formaldehyde	In vivo	Mutagenic
MALEIC ANHYDRIDE	In vivo	Not mutagenic
MALEIC ANHYDRIDE	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Hydrotreated light petroleum distillates	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Heavy aromatic solvent naphtha (petroleum)	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Heavy aromatic solvent naphtha (petroleum)	Inhalation	Human and animal	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic
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
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic
Nickel, 5, 5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Not Specified	similar compounds	Carcinogenic
Formaldehyde	Not Specified	Human and animal	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Heavy aromatic solvent naphtha (petroleum)	Inhalation	Not classified for development	Rat	NOAEL 2.4 mg/l	during organogenesis
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Butyl Alcohol	Ingestion	Not classified for female reproduction	Rat	NOAEL 5,000 mg/kg/day	premating & during gestation
Butyl Alcohol	Inhalation	Not classified for male reproduction	Rat	NOAEL 18 mg/l	6 weeks
Butyl Alcohol	Inhalation	Not classified for development	Rat	NOAEL 10.6 mg/l	during gestation
Xylene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
Xylene	Ingestion	Not classified for development	Mouse	NOAEL Not available	during organogenesis
Xylene	Inhalation	Not classified for development	Multiple animal species	NOAEL Not available	during gestation
Ethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 4.3 mg/l	premating & during gestation
Nickel, 5, 5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
Pine oil	Ingestion	Not classified for development	Rat	NOAEL 600 mg/kg/day	during gestation
Pine oil	Ingestion	Not classified for female reproduction	Rat	NOAEL 250	premating

				mg/kg/day	into lactation
Pine oil	Ingestion	Toxic to male reproduction	Rat	NOAEL 250 mg/kg/day	5 weeks
Formaldehyde	Ingestion	Not classified for male reproduction	Rat	NOAEL 100 mg/kg	not applicable
Formaldehyde	Inhalation	Not classified for development	Rat	NOAEL 10 ppm	during gestation
MALEIC ANHYDRIDE	Ingestion	Not classified for female reproduction	Rat	NOAEL 55 mg/kg/day	2 generation
MALEIC ANHYDRIDE	Ingestion	Not classified for male reproduction	Rat	NOAEL 55 mg/kg/day	2 generation
MALEIC ANHYDRIDE	Ingestion	Not classified for development	Rat	NOAEL 140 mg/kg/day	during organogenesis

Lactation

Name	Route	Species	Value
Xylene	Ingestion	Mouse	Not classified for 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
Hydrotreated light petroleum distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Hydrotreated light petroleum distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Hydrotreated light petroleum distillates	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Notavailable	
Heavy aromatic solvent naphtha (petroleum)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Heavy aromatic solvent naphtha (petroleum)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Heavy aromatic solvent naphtha (petroleum)	Inhalation	nervous system	Not classified	Dog	NOAEL 6.5 mg/l	4 hours
Heavy aromatic solvent naphtha (petroleum)	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Alkyl amine polymer (NJ TSR # 04499600-5252P)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
NONANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
NONANE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
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	
Xylene	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours

Xylene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Xylene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Xylene	Inhalation	eyes	Not classified	Rat	NOAEL 3.5 mg/l	not available
Xylene	Inhalation	liver	Not classified	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	Not classified	Rat	NOAEL 250 mg/kg	not applicable
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	
Ethylbenzene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Pine oil	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
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	
MALEIC ANHYDRIDE	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Heavy aromatic solvent naphtha (petroleum)	Inhalation	nervous system	Not classified	Rat	LOAEL 4.6 mg/l	6 months
Heavy aromatic solvent naphtha (petroleum)	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.9 mg/l	13 weeks
Heavy aromatic solvent naphtha (petroleum)	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 0.6 mg/l	90 days
Heavy aromatic solvent naphtha (petroleum)	Inhalation	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 5.6 mg/l	12 weeks
Heavy aromatic solvent naphtha (petroleum)	Inhalation	blood	Not classified	Rat	NOAEL 5.6 mg/l	12 weeks
Heavy aromatic solvent naphtha (petroleum)	Inhalation	liver	Not classified	Rat	NOAEL 5.6 mg/l	12 weeks
Heavy aromatic solvent naphtha (petroleum)	Inhalation	muscles	Not classified	Rat	NOAEL 5.6 mg/l	12 weeks
Heavy aromatic solvent naphtha (petroleum)	Inhalation	heart	Not classified	Multiple animal species	NOAEL 1.3 mg/l	90 days
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	immune system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	heart	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	skin	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	muscles	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment (NJ TSR # 04499600-5248P)	Ingestion	vascular system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
NONANE	Inhalation	nervous system	Not classified	Rat	NOAEL 8.4 mg/l	90 days
NONANE	Inhalation	heart	Not classified	Rat	NOAEL 8.4 mg/l	90 days
NONANE	Inhalation	endocrine system	Not classified	Rat	NOAEL 8.4 mg/l	90 days
NONANE	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 8.4 mg/l	90 days
NONANE	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 8.4 mg/l	90 days
NONANE	Inhalation	liver	Not classified	Rat	NOAEL 8.4 mg/l	90 days
NONANE	Inhalation	muscles	Not classified	Rat	NOAEL 8.4 mg/l	90 days
NONANE	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 8.4 mg/l	90 days
NONANE	Inhalation	respiratory system	Not classified	Rat	NOAEL 8.4 mg/l	90 days
NONANE	Ingestion	endocrine system	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
NONANE	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
NONANE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
NONANE	Ingestion	liver	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
NONANE	Ingestion	respiratory system	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
NONANE	Ingestion	heart	Not classified	Rat	NOAEL	90 days

					5,000 mg/kg/day	
NONANE	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
NONANE	Ingestion	immune system	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
NONANE	Ingestion	nervous system	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
NONANE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
NONANE	Ingestion	vascular system	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
Butyl Alcohol	Inhalation	blood	Not classified	Rat	NOAEL 0.3 mg/l	3 months
Butyl Alcohol	Inhalation	auditory system	Not classified	Human	NOAEL Not available	occupational exposure
Butyl Alcohol	Inhalation	liver	Not classified	Guinea pig	NOAEL Not available	3 months
Butyl Alcohol	Inhalation	kidney and/or bladder	Not classified	Guinea pig	NOAEL Not available	3 months
Butyl Alcohol	Inhalation	respiratory system	Not classified	Guinea pig	NOAEL Not available	3 months
Butyl Alcohol	Inhalation	nervous system	Not classified	Rat	NOAEL 9.09 mg/l	13 weeks
Butyl Alcohol	Ingestion	blood	Not classified	Rat	NOAEL 500 mg/kg/day	13 weeks
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	Not classified	Multiple animal species	NOAEL Not available	
Xylene	Inhalation	heart	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	endocrine system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	hematopoietic system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	muscles	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
Xylene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
Xylene	Ingestion	liver	Not classified	Multiple animal	NOAEL Not available	

				species		
Xylene	Ingestion	heart	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	skin	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	immune system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	nervous system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Ethylbenzene	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 0.9 mg/l	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	Not classified	Rat	NOAEL 3.4 mg/l	28 days
Ethylbenzene	Inhalation	endocrine system	Not classified	Mouse	NOAEL 3.3 mg/l	103 weeks
Ethylbenzene	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	muscles	Not classified	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	heart	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Inhalation	immune system	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Ingestion	liver	Not classified	Rat	NOAEL 680 mg/kg/day	6 months
Ethylbenzene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 680 mg/kg/day	6 months
Nickel, 5, 5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Pine oil	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 2.23 mg/l	13 weeks
Pine oil	Inhalation	eyes	Not classified	Rat	NOAEL 2.23 mg/l	13 weeks

Pine oil	Inhalation	respiratory system	Not classified	Rat	NOAEL 2.23 mg/l	13 weeks
Pine oil	Ingestion	liver	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Pine oil	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Pine oil	Ingestion	heart	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Pine oil	Ingestion	skin	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Pine oil	Ingestion	endocrine system	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Pine oil	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Pine oil	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Pine oil	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Pine oil	Ingestion	immune system	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Pine oil	Ingestion	muscles	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Pine oil	Ingestion	nervous system	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Pine oil	Ingestion	respiratory system	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Formaldehyde	Dermal	respiratory system	Not classified	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	Not classified	Rat	NOAEL 20 ppm	13 weeks
Formaldehyde	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 15 ppm	3 weeks
Formaldehyde	Inhalation	nervous system	Not classified	Mouse	NOAEL 10 ppm	13 weeks
Formaldehyde	Inhalation	endocrine system	Not classified	Rat	NOAEL 15 ppm	28 months
Formaldehyde	Inhalation	immune system	Not classified	Rat	NOAEL 15 ppm	28 months
Formaldehyde	Inhalation	muscles	Not classified	Rat	NOAEL 15 ppm	28 months
Formaldehyde	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 15 ppm	28 months
Formaldehyde	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 15 ppm	2 years
Formaldehyde	Inhalation	eyes	Not classified	Rat	NOAEL 14.3 ppm	2 years
Formaldehyde	Inhalation	vascular system	Not classified	Rat	NOAEL 14.3 ppm	2 years
Formaldehyde	Inhalation	heart	Not classified	Mouse	NOAEL 14.3 ppm	2 years
Formaldehyde	Ingestion	liver	Not classified	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	immune system	Not classified	Rat	NOAEL 20 mg/kg/day	4 weeks
Formaldehyde	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 15 mg/kg/day	24 months
Formaldehyde	Ingestion	nervous system	Not classified	Rat	NOAEL 109 mg/kg/day	2 years
Formaldehyde	Ingestion	heart	Not classified	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	endocrine system	Not classified	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	respiratory system	Not classified	Rat	NOAEL 300	2 years

					mg/kg/day	
Formaldehyde	Ingestion	vascular system	Not classified	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	skin	Not classified	Rat	NOAEL 109 mg/kg/day	2 years
Formaldehyde	Ingestion	muscles	Not classified	Rat	NOAEL 109 mg/kg/day	2 years
Formaldehyde	Ingestion	eyes	Not classified	Rat	NOAEL 109 mg/kg/day	2 years
MALEIC ANHYDRIDE	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.0011 mg/l	6 months
MALEIC ANHYDRIDE	Inhalation	endocrine system	Not classified	Rat	NOAEL 0.0098 mg/l	6 months
MALEIC ANHYDRIDE	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 0.0098 mg/l	6 months
MALEIC ANHYDRIDE	Inhalation	nervous system	Not classified	Rat	NOAEL 0.0098 mg/l	6 months
MALEIC ANHYDRIDE	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 0.0098 mg/l	6 months
MALEIC ANHYDRIDE	Inhalation	heart	Not classified	Rat	NOAEL 0.0098 mg/l	6 months
MALEIC ANHYDRIDE	Inhalation	liver	Not classified	Rat	NOAEL 0.0098 mg/l	6 months
MALEIC ANHYDRIDE	Inhalation	eyes	Not classified	Rat	NOAEL 0.0098 mg/l	6 months
MALEIC ANHYDRIDE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 55 mg/kg/day	80 days
MALEIC ANHYDRIDE	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 250 mg/kg/day	183 days
MALEIC ANHYDRIDE	Ingestion	heart	Not classified	Rat	NOAEL 600 mg/kg/day	183 days
MALEIC ANHYDRIDE	Ingestion	nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	183 days
MALEIC ANHYDRIDE	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 150 mg/kg/day	80 days
MALEIC ANHYDRIDE	Ingestion	hematopoietic system	Not classified	Dog	NOAEL 60 mg/kg/day	90 days
MALEIC ANHYDRIDE	Ingestion	skin	Not classified	Rat	NOAEL 150 mg/kg/day	80 days
MALEIC ANHYDRIDE	Ingestion	endocrine system	Not classified	Rat	NOAEL 150 mg/kg/day	80 days
MALEIC ANHYDRIDE	Ingestion	immune system	Not classified	Rat	NOAEL 150 mg/kg/day	80 days
MALEIC ANHYDRIDE	Ingestion	eyes	Not classified	Rat	NOAEL 150 mg/kg/day	80 days
MALEIC ANHYDRIDE	Ingestion	respiratory system	Not classified	Rat	NOAEL 150 mg/kg/day	80 days

Aspiration Hazard

Name	Value
Hydrotreated light petroleum distillates	Aspiration hazard
Heavy aromatic solvent naphtha (petroleum)	Aspiration hazard
NONANE	Aspiration hazard
Butyl Alcohol	Some positive data exist, but the data are not sufficient for classification
Xylene	Aspiration hazard
Ethylbenzene	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 in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal 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)

SECTION 14: Transport Information

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

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards
Flammable (gases, aerosols, liquids, or solids)

Health Hazards
Carcinogenicity
Reproductive toxicity
Respiratory or Skin Sensitization
Skin Corrosion or Irritation
Specific target organ toxicity (single or repeated exposure)

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	Trade Secret 0.5 - 1.5
Xylene	1330-20-7	Trade Secret 0.1 - 1.5
Nickel, 5, 5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	68511-62-6	Trade Secret 0.1 - 1
Ethylbenzene	100-41-4	< 0.3

This material contains a chemical which requires export notification under TSCA Section 12[b]:

Ingredient (Category if applicable)	C.A.S. No	Regulation	Status
NONANE (Nonane)	111-84-2	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable
NONANE	111-84-2	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable

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. All required components of this product are listed on the active portion of the TSCA Inventory.

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:** 2 **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.

Document Group:	10-0694-9	**Version Number:**	39.00
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