



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances (Safety Data Sheets) Notice 2017.

SECTION 1: Identification

1.1. Product identifier

3M™ Urethane Seam Sealer, Beige, PN 08364, 08365

Product Identification Numbers

60-4550-5461-3

7100024963

1.2. Recommended use and restrictions on use

Recommended use

Used for unpainted seams to closely match factory sealed seams, Sealant.

For Industrial or Professional use only

1.3. Supplier's details

Address:	3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland
Telephone:	(09) 477 4040
E Mail:	innovation@nz.mmm.com
Website:	3m.co.nz

1.4. Emergency telephone number

24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

SECTION 2: Hazard identification

Classified as hazardous in accordance with the relevant criteria of the HSNO Act 1996 and the Hazardous Substances (Hazard Classification) Notice 2020.

Refer to Section 14 of this Safety Data Sheet for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture

Respiratory sensitisation: Category 1

Skin sensitisation: Category 1
Carcinogenicity: Category 2
Reproductive Toxicity: Category 2
Specific target organ toxicity – single exposure: Category 2
Specific target organ toxicity – repeated exposure: Category 2

2.2. Label elements

SIGNAL WORD

Danger

Symbols:

Health Hazard |

Pictograms



HAZARD STATEMENTS:

H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H371	May cause damage to organs: sensory organs.
H373	May cause damage to organs through prolonged or repeated exposure: nervous system sensory organs.

PRECAUTIONARY STATEMENTS

General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash exposed skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280E	Wear protective gloves.
P284	Wear respiratory protection.

Response

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container via an approved hazardous waste disposal contractor.

2.3. Other hazards

A similar mixture has been tested for eye damage/irritation and the test results do not meet the criteria for classification. Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	% by Weight
Urethane Polymer	Trade Secret	15 - 40
Poly(vinyl chloride)	9002-86-2	10 - 30
Sulfonic Acids, C10-18-Alkane, PH Esters	70775-94-9	10 - 30
Xylene	1330-20-7	3 - 7
Ethylbenzene	100-41-4	1 - 5
Iron oxide (FE2O3)	1309-37-1	< 5
Iron Oxide (FE3O4)	1317-61-9	< 3
Calcium Oxide	1305-78-8	< 3
Titanium dioxide	13463-67-7	< 3
C.I. Pigment Yellow 42	51274-00-1	< 2
chromium (III) oxide	1308-38-9	< 1.5
Hydrotreated Light Petroleum Distillates	64742-47-8	0.5 - 1.5
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	< 1
Carbon black	1333-86-4	< 0.6
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	41556-26-7	<= 0.082
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	82919-37-7	<= 0.02

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 respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Allergic skin reaction (redness, swelling, blistering, and itching). 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

DO NOT USE WATER In case of fire: Use a carbon dioxide or dry chemical extinguisher 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.

5.4. Hazchem code: Not applicable.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. 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.

6.3. Methods and material for containment and cleaning up

Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. 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 container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. Clean up residue. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

Refer to Section 15 - Controls for more information

7.1. Precautions for safe handling

Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/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 oxidising agents (eg. chlorine, chromic acid etc.) Keep away from reactive metals (eg. Aluminum, zinc etc.) to avoid the formation of hydrogen gas that could create an explosion hazard. Use personal protective

equipment (eg. gloves, respirators...) as required.

7.2. Conditions for safe storage including any incompatibilities

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 oxidising agents. Store away from amines.

7.3. Certified handler

Not required

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	CAS Nbr	Agency	Limit type	Additional comments
Ethylbenzene	100-41-4	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin., Ototoxicant
Ethylbenzene	100-41-4	New Zealand WES	TWA(8 hours):88 mg/m3(20 ppm);STEL(15 minutes):176 mg/m3(40 ppm)	Ototoxicant, SKIN
Methylene bisphenyl isocyanate (MDI)	101-68-8	ACGIH	TWA:0.005 ppm	
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	New Zealand WES	TWA(inhalable fraction and vapor)(8 hours):0.02 mg/m3;STEL(inhalable fraction and vapor)(15 minutes):0.07 mg/m3	Dermal sensitiser, Respiratory sensitiser
Calcium Oxide	1305-78-8	ACGIH	TWA:2 mg/m3	
Calcium Oxide	1305-78-8	New Zealand WES	TWA(8 hours):1 mg/m3;STEL(15 minutes):2 ppm	
Chromium (III) compounds, as Cr	1308-38-9	New Zealand WES	TWA(as Cr)(8 hours):0.5 mg/m3	
Trivalent chromium insoluble inorganic compounds, as Cr (III), inhalable fraction	1308-38-9	ACGIH	TWA(as Cr(III), inhalable fraction):0.003 mg/m3	A4: Not class. as human carcinogen
Iron oxide (FE2O3)	1309-37-1	ACGIH	TWA(respirable fraction):5 mg/m3	A4: Not class. as human carcinogen
Iron oxide (FE2O3)	1309-37-1	New Zealand WES	TWA(as Fe, dust and fume)(8 hours):5 mg/m3	
Xylene	1330-20-7	ACGIH	TWA:20 ppm	A4: Not class. as human carcinogen
Xylene	1330-20-7	New Zealand WES	TWA(8 hours):217 mg/m3(50 ppm)	Ototoxicant
Carbon black	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m3	A3: Confirmed animal carcinogen.
Carbon black	1333-86-4	New Zealand WES	TWA(8 hours): 3 mg/m3	Suspected human carcinogen.
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 carcinogen.

Titanium dioxide	13463-67-7	New Zealand WES	TWA(Ultrafine fraction)(8 hours):0.2 mg/m ³ ;TWA(as respirable dust)(8 hours):2.5 mg/m ³ ;TWA(8 hours):10 mg/m ³	
Poly(vinyl chloride)	9002-86-2	ACGIH	TWA(respirable fraction):1 mg/m ³	A4: Not class. as human carcinogen

ACGIH : American Conference of Governmental Industrial Hygienists
 AIHA : American Industrial Hygiene Association
 CMRG : Chemical Manufacturer's Recommended Guidelines
 New Zealand WES : New Zealand Workplace Exposure Standards.
 TWA: Time-Weighted-Average
 STEL: Short Term Exposure Limit
 ppm: parts per million
 mg/m³: milligrams per cubic metre
 CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Provide ventilated enclosure for curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. 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/vapours/spray. If ventilation is not adequate, use respiratory protection 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.

Select and use gloves according to AS/NZ 2161.

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.

Refer AS/NZS 1715 - Selection, use and maintenance of respiratory protective equipment and AS/NZS 1716 - Respiratory protective devices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Paste
Colour	White
Odour	Mild Solvent
Odour threshold	No data available.
pH	Not applicable.
Melting point/Freezing point	Not applicable.
Boiling point/Initial boiling point/Boiling range	137 °C
Flash point	No flash point
Evaporation rate	Not applicable.
Flammability	Not applicable.
Flammable Limits(LEL)	0.6 % volume
Flammable Limits(UEL)	7 % volume
Vapour pressure	11 mbar [Ref Std: AIR=1]
Relative Vapour Density	4 [Ref Std: AIR=1]
Density	1.17 g/ml
Relative density	1.17 [Ref Std: WATER=1]
Water solubility	Negligible
Solubility- non-water	No data available.
Partition coefficient: n-octanol/water	No data available.
Autoignition temperature	> 200 °C
Decomposition temperature	No data available.
Kinematic Viscosity	No data available.
Volatile organic compounds (VOC)	108 g/l [Test Method:calculated SCAQMD rule 443.1]
Volatile organic compounds (VOC)	9.3 % weight [Test Method:calculated per CARB title 2]
Percent volatile	9.3 % weight [Details:Excluding exempt compounds]
VOC less H2O & exempt solvents	108 g/l [Test Method:calculated SCAQMD rule 443.1]
Molecular weight	No data available.

Particle Characteristics	Not applicable.
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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 polymerisation will not occur.

10.4 Conditions to avoid

Heat.

High shear and high temperature conditions

Sparks and/or flames.

Temperatures above the boiling point.

10.5 Incompatible materials

Amines.

Alcohols.

Water

Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.

Accelerators

Aluminium or magnesium powder and high/shear temperature conditions.

Alkali and alkaline earth metals.

Reactive metals

Strong acids.

Strong bases.

Finely divided active metals

Combustibles.

Strong oxidising 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 labelling, 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. Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. May cause additional health effects (see below).

Skin contact

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

Eye contact

Vapours released during curing may cause eye irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion

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

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 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.

Additional information:

Persons previously sensitised to isocyanates may develop a cross-sensitisation reaction to other isocyanates.

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 >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Poly(vinyl chloride)	Dermal		LD50 estimated to be > 5,000 mg/kg
Poly(vinyl chloride)	Ingestion		LD50 estimated to be > 5,000 mg/kg
Sulfonic Acids, C10-18-Alkane, PH Esters	Dermal	Rat	LD50 > 1,000 mg/kg
Sulfonic Acids, C10-18-Alkane, PH Esters	Ingestion	Rat	LD50 > 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
Iron oxide (Fe2O3)	Dermal	Not available	LD50 3,100 mg/kg
Iron oxide (Fe2O3)	Ingestion	Not available	LD50 3,700 mg/kg
Iron Oxide (Fe3O4)	Dermal	Not available	LD50 3,100 mg/kg
Iron Oxide (Fe3O4)	Ingestion	Not available	LD50 3,700 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
Calcium Oxide	Ingestion	Rat	LD50 > 2,500 mg/kg
Calcium Oxide	Dermal	similar compounds	LD50 > 2,500 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
Hydrotreated Light Petroleum Distillates	Ingestion	Rat	LD50 > 15,000 mg/kg
Hydrotreated Light Petroleum Distillates	Dermal	similar	LD50 > 5,000 mg/kg

		compounds	
chromium (III) oxide	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
chromium (III) oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.41 mg/l
chromium (III) oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
P,P'-Methylenebis(phenyl isocyanate)	Dermal	Rabbit	LD50 > 5,000 mg/kg
P,P'-Methylenebis(phenyl isocyanate)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
P,P'-Methylenebis(phenyl isocyanate)	Ingestion	Rat	LD50 31,600 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 mg/kg
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	Ingestion	Rat	LD50 3,125 mg/kg
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	Ingestion	Rat	LD50 3,125 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Poly(vinyl chloride)	Professional judgement	No significant irritation
Xylene	Rabbit	Mild irritant
Iron oxide (Fe2O3)	Rabbit	No significant irritation
Iron Oxide (Fe3O4)	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Calcium Oxide	Human	Corrosive
Ethylbenzene	Rabbit	Mild irritant
Hydrotreated Light Petroleum Distillates	similar compounds	Mild irritant
chromium (III) oxide	Rabbit	No significant irritation
P,P'-Methylenebis(phenyl isocyanate)	official classification	Irritant
Carbon black	Rabbit	No significant irritation
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	Rabbit	Minimal irritation
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	Rabbit	Mild irritant
Xylene	Rabbit	Mild irritant
Iron oxide (Fe2O3)	Rabbit	No significant irritation
Iron Oxide (Fe3O4)	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Calcium Oxide	Rabbit	Corrosive
Ethylbenzene	Rabbit	Moderate irritant
Hydrotreated Light Petroleum Distillates	similar	No significant irritation

	compound	
chromium (III) oxide	Rabbit	No significant irritation
P,P'-Methylenebis(phenyl isocyanate)	official classification	Severe irritant
Carbon black	Rabbit	No significant irritation
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	Rabbit	Mild irritant
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	Rabbit	Mild irritant

Sensitisation:

Skin Sensitisation

Name	Species	Value
Iron oxide (Fe ₂ O ₃)	Human	Not classified
Iron Oxide (Fe ₃ O ₄)	Human	Not classified
Titanium dioxide	Human and animal	Not classified
Ethylbenzene	Human	Not classified
Hydrotreated Light Petroleum Distillates	similar compounds	Not classified
chromium (III) oxide	similar compounds	Not classified
P,P'-Methylenebis(phenyl isocyanate)	Mouse	Sensitising
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	Guinea pig	Sensitising
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	Guinea pig	Sensitising

Respiratory Sensitisation

Name	Species	Value
P,P'-Methylenebis(phenyl isocyanate)	Human	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
Poly(vinyl chloride)	In Vitro	Not mutagenic
Xylene	In Vitro	Not mutagenic
Xylene	In vivo	Not mutagenic
Iron oxide (Fe ₂ O ₃)	In Vitro	Not mutagenic
Iron Oxide (Fe ₃ O ₄)	In Vitro	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
Calcium Oxide	In Vitro	Not mutagenic
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not sufficient for classification
Hydrotreated Light Petroleum Distillates	In Vitro	Not mutagenic
chromium (III) oxide	In vivo	Not mutagenic
chromium (III) oxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
P,P'-Methylenebis(phenyl isocyanate)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Carbon black	In Vitro	Not mutagenic
Carbon black	In vivo	Some positive data exist, but the data are not sufficient for classification
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	In vivo	Not mutagenic
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	In Vitro	Some positive data exist, but the data are not

		sufficient for classification
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)sebacate	In vivo	Not mutagenic
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)sebacate	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Poly(vinyl chloride)	Not specified.	Rat	Some positive data exist, but the data are not sufficient for classification
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 (FE2O3)	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
Iron Oxide (FE3O4)	Inhalation	Human	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.
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic.
chromium (III) oxide	Ingestion	Rat	Not carcinogenic
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Poly(vinyl chloride)	Not specified.	Not classified for development	Mouse	NOAEL Not available	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
chromium (III) oxide	Ingestion	Not classified for female reproduction	Rat	NOAEL 2,000 mg/kg/day	90 days
chromium (III) oxide	Ingestion	Not classified for male reproduction	Rat	NOAEL 2,000 mg/kg/day	90 days
chromium (III) oxide	Ingestion	Not classified for development	Rat	NOAEL 2,000 mg/kg/day	90 days
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
Bis(1,2,2,6,6-pentamethyl-4-piperidiny) sebacate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,493 mg/kg/day	29 days
Bis(1,2,2,6,6-pentamethyl-4-piperidiny) sebacate	Ingestion	Not classified for development	Rat	NOAEL 209 mg/kg/day	premating into lactation

Bis(1,2,2,6,6-pentamethyl-4-piperidiny) sebacate	Ingestion	Toxic to female reproduction	Rat	NOAEL 804 mg/kg/day	premating into lactation
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)sebacate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,493 mg/kg/day	29 days
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)sebacate	Ingestion	Not classified for development	Rat	NOAEL 209 mg/kg/day	premating into lactation
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)sebacate	Ingestion	Toxic to female reproduction	Rat	NOAEL 804 mg/kg/day	premating into lactation

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
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
Calcium Oxide	Inhalation	respiratory irritation	May cause respiratory irritation	Not available	NOAEL Not available	occupational exposure
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	
Hydrotreated Light Petroleum Distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
chromium (III) oxide	Inhalation	respiratory system	Not classified	Rat	NOAEL 40 mg	
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Poly(vinyl chloride)	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 0.013 mg/l	22 months
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 through prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
Xylene	Inhalation	liver	Not classified	Multiple	NOAEL Not	

				animal species	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 species	NOAEL Not available	
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
Iron oxide (Fe ₂ O ₃)	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Iron oxide (Fe ₂ O ₃)	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Iron Oxide (Fe ₃ O ₄)	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Iron Oxide (Fe ₃ O ₄)	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
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

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
Hydrotreated Light Petroleum Distillates	Inhalation	liver	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Light Petroleum Distillates	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.5 mg/l	13 weeks
Hydrotreated Light Petroleum Distillates	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Light Petroleum Distillates	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Hydrotreated Light Petroleum Distillates	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 100 mg/kg/day	13 weeks
Hydrotreated Light Petroleum Distillates	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Hydrotreated Light Petroleum Distillates	Ingestion	eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
chromium (III) oxide	Inhalation	immune system	Not classified	Rat	NOAEL 44 mg/m ³	90 days
chromium (III) oxide	Inhalation	respiratory system	Not classified	Rat	NOAEL 44 mg/m ³	90 days
chromium (III) oxide	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 44 mg/m ³	90 days
chromium (III) oxide	Inhalation	liver	Not classified	Rat	NOAEL 44 mg/m ³	90 days
chromium (III) oxide	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 44 mg/m ³	90 days
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
Carbon black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Ingestion	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 300 mg/kg/day	28 days

Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Ingestion	liver	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Ingestion	immune system	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Ingestion	heart	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Ingestion	nervous system	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Methyl(1,2,2,6,6-pentamethyl-4-piperidinyl)sebacate	Ingestion	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 300 mg/kg/day	28 days
Methyl(1,2,2,6,6-pentamethyl-4-piperidinyl)sebacate	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Methyl(1,2,2,6,6-pentamethyl-4-piperidinyl)sebacate	Ingestion	liver	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Methyl(1,2,2,6,6-pentamethyl-4-piperidinyl)sebacate	Ingestion	immune system	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Methyl(1,2,2,6,6-pentamethyl-4-piperidinyl)sebacate	Ingestion	heart	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Methyl(1,2,2,6,6-pentamethyl-4-piperidinyl)sebacate	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Methyl(1,2,2,6,6-pentamethyl-4-piperidinyl)sebacate	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Methyl(1,2,2,6,6-pentamethyl-4-piperidinyl)sebacate	Ingestion	nervous system	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Methyl(1,2,2,6,6-pentamethyl-4-piperidinyl)sebacate	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days

Aspiration Hazard

Name	Value
Xylene	Aspiration hazard
Ethylbenzene	Aspiration hazard
Hydrotreated Light Petroleum Distillates	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

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in

Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Ecotoxic to the aquatic environment.

Acute Aquatic Toxicity: Category 3

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Urethane Polymer	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	NA
Poly(vinyl chloride)	9002-86-2	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Sulfonic Acids, C10-18-Alkane, PH Esters	70775-94-9	Medaka	Experimental	96 hours	LC50	>100 mg/l
Sulfonic Acids, C10-18-Alkane, PH Esters	70775-94-9	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Sulfonic Acids, C10-18-Alkane, PH Esters	70775-94-9	Green algae	Experimental	72 hours	EC10	>=2 mg/l
Xylene	1330-20-7	Green algae	Analogous Compound	73 hours	ErC50	4.36 mg/l
Xylene	1330-20-7	Rainbow trout	Analogous Compound	96 hours	LC50	2.6 mg/l
Xylene	1330-20-7	Water flea	Analogous Compound	48 hours	EC50	3.82 mg/l
Xylene	1330-20-7	Green algae	Analogous Compound	73 hours	NOEC	0.44 mg/l
Xylene	1330-20-7	Rainbow trout	Analogous Compound	56 days	NOEC	1.3 mg/l
Xylene	1330-20-7	Water flea	Analogous Compound	7 days	NOEC	0.96 mg/l
Xylene	1330-20-7	Activated sludge	Analogous Compound	30 minutes	EC50	>198 mg/l
Xylene	1330-20-7	Redworm	Analogous Compound	56 days	NOEC	42.6 mg/kg (Dry Weight)
Xylene	1330-20-7	Soil microbes	Analogous Compound	28 days	EC50	>1,000 mg/kg (Dry Weight)
Ethylbenzene	100-41-4	Green algae	Analogous Compound	73 hours	ErC50	4.36 mg/l
Ethylbenzene	100-41-4	Rainbow trout	Analogous Compound	96 hours	LC50	2.6 mg/l
Ethylbenzene	100-41-4	Water flea	Analogous Compound	48 hours	EC50	3.82 mg/l

Ethylbenzene	100-41-4	Green algae	Analogous Compound	73 hours	NOEC	0.44 mg/l
Ethylbenzene	100-41-4	Rainbow trout	Analogous Compound	56 days	NOEC	1.3 mg/l
Ethylbenzene	100-41-4	Water flea	Analogous Compound	7 days	NOEC	0.96 mg/l
Ethylbenzene	100-41-4	Activated sludge	Analogous Compound	30 minutes	EC50	>198 mg/l
Ethylbenzene	100-41-4	Redworm	Analogous Compound	56 days	NOEC	42.6 mg/kg (Dry Weight)
Ethylbenzene	100-41-4	Soil microbes	Analogous Compound	28 days	EC50	>1,000 mg/kg (Dry Weight)
Iron oxide (FE2O3)	1309-37-1	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Iron oxide (FE2O3)	1309-37-1	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Iron oxide (FE2O3)	1309-37-1	Zebra Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Iron oxide (FE2O3)	1309-37-1	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Iron oxide (FE2O3)	1309-37-1	Water flea	Experimental	21 days	No tox obs at lmt of water sol	>100 mg/l
Iron oxide (FE2O3)	1309-37-1	Activated sludge	Experimental	3 hours	EC50	>10,000 mg/l
Calcium Oxide	1305-78-8	Common Carp	Experimental	96 hours	LC50	1,070 mg/l
Iron Oxide (FE3O4)	1317-61-9	Green algae	Analogous Compound	72 hours	No tox obs at lmt of water sol	>100 mg/l
Iron Oxide (FE3O4)	1317-61-9	Water flea	Analogous Compound	48 hours	No tox obs at lmt of water sol	>100 mg/l
Iron Oxide (FE3O4)	1317-61-9	Zebra Fish	Analogous Compound	96 hours	No tox obs at lmt of water sol	>100 mg/l
Iron Oxide (FE3O4)	1317-61-9	Green algae	Analogous Compound	72 hours	No tox obs at lmt of water sol	>100 mg/l
Iron Oxide (FE3O4)	1317-61-9	Water flea	Analogous Compound	21 days	No tox obs at lmt of water sol	>100 mg/l
Iron Oxide (FE3O4)	1317-61-9	Activated sludge	Analogous Compound	3 hours	EC50	>=10,000 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	ErC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Titanium dioxide	13463-67-7	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Titanium dioxide	13463-67-7	Amphipod	Experimental	10 days	NOEC	>14,989 mg/kg (Dry Weight)
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
Titanium dioxide	13463-67-7	Fish	Experimental	30 days	No tox obs at lmt of water sol	100 mg/l
Titanium dioxide	13463-67-7	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l
Titanium	13463-67-7	Water flea	Experimental	30 days	No tox obs at	100 mg/l

dioxide					lmt of water sol	
Titanium dioxide	13463-67-7	Activated sludge	Experimental	3 hours	NOEC	>=1,000 mg/l
Titanium dioxide	13463-67-7	Redworm	Experimental	14 days	NOEC	>=1,000 mg/kg (Dry Weight)
C.I. Pigment Yellow 42	51274-00-1	Bacteria	Experimental	16 hours	NOEC	1,000 mg/l
C.I. Pigment Yellow 42	51274-00-1	Water flea	Experimental	48 hours	EC50	100 mg/l
C.I. Pigment Yellow 42	51274-00-1	Zebra Fish	Experimental	96 hours	LC50	>100,000 mg/l
chromium (III) oxide	1308-38-9	Green algae	Estimated	72 hours	No tox obs at lmt of water sol	>100 mg/l
chromium (III) oxide	1308-38-9	Water flea	Estimated	48 hours	No tox obs at lmt of water sol	>100 mg/l
chromium (III) oxide	1308-38-9	Zebra Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
chromium (III) oxide	1308-38-9	Green algae	Estimated	72 hours	No tox obs at lmt of water sol	>100 mg/l
chromium (III) oxide	1308-38-9	Water flea	Estimated	21 days	No tox obs at lmt of water sol	>100 mg/l
chromium (III) oxide	1308-38-9	Zebra Fish	Estimated	30 days	No tox obs at lmt of water sol	>100 mg/l
Hydrotreated Light Petroleum Distillates	64742-47-8	Green algae	Experimental	72 hours	EL50	>1,000 mg/l
Hydrotreated Light Petroleum Distillates	64742-47-8	Rainbow trout	Experimental	96 hours	LL50	>1,000 mg/l
Hydrotreated Light Petroleum Distillates	64742-47-8	Water flea	Experimental	48 hours	EL50	>1,000 mg/l
Hydrotreated Light Petroleum Distillates	64742-47-8	Green algae	Experimental	72 hours	NOEL	1,000 mg/l
P,P'-Methylenebis(p henyl isocyanate)	101-68-8	Activated sludge	Estimated	3 hours	EC50	>100 mg/l
P,P'-Methylenebis(p henyl isocyanate)	101-68-8	Green algae	Estimated	72 hours	EC50	>1,640 mg/l
P,P'-Methylenebis(p henyl isocyanate)	101-68-8	Water flea	Estimated	24 hours	EC50	>1,000 mg/l

P,P'-Methylenebis(p henyl isocyanate)	101-68-8	Zebra Fish	Estimated	96 hours	LC50	>1,000 mg/l
P,P'-Methylenebis(p henyl isocyanate)	101-68-8	Green algae	Estimated	72 hours	NOEC	1,640 mg/l
P,P'-Methylenebis(p henyl isocyanate)	101-68-8	Water flea	Estimated	21 days	NOEC	10 mg/l
Carbon black	1333-86-4	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Carbon black	1333-86-4	Zebra Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Carbon black	1333-86-4	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l
Carbon black	1333-86-4	Activated sludge	Experimental	3 hours	NOEC	>800 mg/l
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	41556-26-7	Green algae	Experimental	72 hours	ErC50	1.68 mg/l
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	41556-26-7	Zebra Fish	Experimental	96 hours	LC50	0.9 mg/l
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	41556-26-7	Green algae	Experimental	72 hours	ErC10	0.34 mg/l
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	41556-26-7	Water flea	Experimental	21 days	NOEC	1 mg/l
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	41556-26-7	Activated sludge	Experimental	3 hours	IC50	>=100 mg/l
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)lseb acate	82919-37-7	Green algae	Experimental	72 hours	ErC50	1.68 mg/l
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)lseb acate	82919-37-7	Zebra Fish	Experimental	96 hours	LC50	0.9 mg/l
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)lseb acate	82919-37-7	Green algae	Experimental	72 hours	ErC10	0.34 mg/l

Methyl(1,2,2,6,6-pentamethyl-4-piperidinyl)sebacate	82919-37-7	Water flea	Experimental	21 days	NOEC	1 mg/l
Methyl(1,2,2,6,6-pentamethyl-4-piperidinyl)sebacate	82919-37-7	Activated sludge	Experimental	3 hours	IC50	>=100 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Urethane Polymer	Trade Secret	Data not available - insufficient	N/A	N/A	N/A	N/A
Poly(vinyl chloride)	9002-86-2	Data not available - insufficient	N/A	N/A	N/A	N/A
Sulfonic Acids, C10-18-Alkane, PH Esters	70775-94-9	Estimated Biodegradation	28 days	BOD	51 %BOD/ThOD	
Xylene	1330-20-7	Analogous Compound Biodegradation	28 days	BOD	94 %BOD/ThOD	OECD 301F - Manometric respirometry
Ethylbenzene	100-41-4	Analogous Compound Biodegradation	28 days	BOD	94 %BOD/ThOD	OECD 301F - Manometric respirometry
Iron oxide (Fe2O3)	1309-37-1	Data not available - insufficient	N/A	N/A	N/A	N/A
Calcium Oxide	1305-78-8	Data not available - insufficient	N/A	N/A	N/A	N/A
Iron Oxide (Fe3O4)	1317-61-9	Data not available - insufficient	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Data not available - insufficient	N/A	N/A	N/A	N/A
C.I. Pigment Yellow 42	51274-00-1	Data not available - insufficient	N/A	N/A	N/A	N/A
chromium (III) oxide	1308-38-9	Data not available - insufficient	N/A	N/A	N/A	N/A
Hydrotreated Light Petroleum Distillates	64742-47-8	Estimated Biodegradation	28 days	BOD	69 %BOD/ThOD	OECD 301F - Manometric respirometry
P,P'-Methylenebis(p-henyl)	101-68-8	Estimated Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	

isocyanate)						
Carbon black	1333-86-4	Data not availbl- insufficient	N/A	N/A	N/A	N/A
Bis(1,2,2,6,6-pentamethyl-4-piperidiny) sebacate	41556-26-7	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	38 % removal of DOC	OECD 301E - Modif. OECD Screen
Bis(1,2,2,6,6-pentamethyl-4-piperidiny) sebacate	41556-26-7	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	68 days (t 1/2)	OECD 111 Hydrolysis func of pH
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)seb acate	82919-37-7	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	38 % removal of DOC	OECD 301E - Modif. OECD Screen
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)seb acate	82919-37-7	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	68 days (t 1/2)	OECD 111 Hydrolysis func of pH

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Urethane Polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Poly(vinyl chloride)	9002-86-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Sulfonic Acids, C10-18-Alkane, PH Esters	70775-94-9	Experimental BCF - Fish	36 days	Bioaccumulation factor	56-212	
Xylene	1330-20-7	Analogous Compound BCF - Fish	56 days	Bioaccumulation factor	<=25.9	
Xylene	1330-20-7	Analogous Compound Bioconcentration		Log Kow	3.2	
Ethylbenzene	100-41-4	Analogous Compound BCF - Fish	56 days	Bioaccumulation factor	<=25.9	
Ethylbenzene	100-41-4	Analogous Compound Bioconcentration		Log Kow	3.2	
Iron oxide (FE2O3)	1309-37-1	Data not available or insufficient for	N/A	N/A	N/A	N/A

		classification				
Calcium Oxide	1305-78-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Iron Oxide (Fe ₃ O ₄)	1317-61-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Experimental BCF - Fish	42 days	Bioaccumulation factor	9.6	
C.I. Pigment Yellow 42	51274-00-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
chromium (III) oxide	1308-38-9	Estimated BCF - Other		Bioaccumulation factor	800	
Hydrotreated Light Petroleum Distillates	64742-47-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
P,P'-Methylenebis(p henyl isocyanate)	101-68-8	Experimental BCF - Fish	28 days	Bioaccumulation factor	200	OECD305-Bioconcentration
Carbon black	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	41556-26-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	<31.4	
Bis(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	41556-26-7	Experimental Bioconcentration		Log Kow	2.77	OECD 107 log Kow shke flsk mtd
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	82919-37-7	Analogous Compound BCF - Fish	56 days	Bioaccumulation factor	<31.4	
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)l sebacate	82919-37-7	Experimental Bioconcentration		Log Kow	2.77	OECD 107 log Kow shke flsk mtd

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Disposal methods

In accordance with the Hazardous Substances (Disposal) Notice 2017 and the relevant criteria of the HSNO Act 1996.

Dispose of waste product in a permitted industrial waste 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.

Packaging (that may or may not contain any residual substance) may be lawfully disposed of by householders or other consumers through public or commercial waste collection services.

SECTION 14: Transport Information

New Zealand Land Transport Rule: Dangerous Goods - Road/Rail Transport

UN No.: Not applicable.

Proper Shipping Name: Not applicable.

Class/Division: Not applicable.

Sub Risk: Not applicable.

Packing Group: Not applicable.

Hazchem Code: Not applicable.

IERG: Not applicable.

International Air Transport Association (IATA) - Air Transport

UN No.: Not applicable.

Proper Shipping Name: Not applicable.

Class/Division: Not applicable.

Sub Risk: Not applicable.

Packing Group: Not applicable.

International Maritime Dangerous Goods Code (IMDG) - Marine Transport

UN No.: Not applicable.

Proper Shipping Name: Not applicable.

Class/Division: Not applicable.

Sub Risk: Not applicable.

Packing Group: Not applicable.

Marine Pollutant: Not applicable.

SECTION 15: Regulatory information

HSNO Approval number HSR002679

Group standard name Surface Coatings and Colourants (Carcinogenic) Group Standard 2020

HSNO Hazard classification Refer to Section 2: Hazard identification

NZ Inventory of Chemicals (NZIoC) Status

All ingredients are listed on the New Zealand Inventory of Chemicals.

Controls in accordance with The Health and Safety at Work Act 2015, Health and Safety at Work (Hazardous Substances) Regulations 2017 and the HSNO Act 1996, Hazardous Substances (Hazardous Property Controls) Notice 2017

Certified handler Not required

Location Compliance Certificate	Not required
Hazardous atmosphere zone	Not required
Fire extinguishers	Not required
Emergency response plan	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Acute toxicity Category 4, Skin sensitisation Category 1, Respiratory sensitisation Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for all other substances)
Secondary containment	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Acute toxicity Category 4, Skin sensitisation Category 1, Respiratory sensitisation Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for all other substances)
Tracking	Not required
Warning signage	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Serious eye damage Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for Acute toxicity Category 4 or Hazardous to the aquatic environment Category 4 substances)

SECTION 16: Other information

Revision information:

Complete document review.

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Key to abbreviations and acronyms

GHS refers to the Globally Harmonised System of Classification and Labelling of Chemicals, 7th revised edition of 2017

HSNO means Hazardous Substances and New Organisms Act 1996

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