Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances and New Organisms Act 1996 (HSNO Act) and Regulations, as amended.

SECTION 1: Identification

1.1. Product identifier
3M™ 8953UV Blue Piezo InkJet Ink

Product Identification Numbers
75-0302-6693-8

1.2. Recommended use and restrictions on use

Recommended use
Ink, For use with Durst 163TS and 163TS-HS

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

2.1. Classification of the substance or mixture

Classified as hazardous according to the New Zealand, Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 as amended.
Classified as a Dangerous Good according to; New Zealand, Land Transport Rule: Dangerous Goods 2005 (Rule 45001/1) as amended, NZS 5433:2012 Transport of Dangerous Goods on Land, UN Model Regulations on the Transport of Dangerous Goods, International Maritime Dangerous Goods Code and IATA Dangerous Goods Regulations. For transport classification, refer to SECTION 14: Transport Information.

HSNO classification
6.1D Acute toxicity
6.3A Irritating to the skin
6.4A Irritating to the eye
6.5B Skin sensitiser

6.7B Suspected human carcinogen
6.8A Known/presumed human reproductive or developmental toxicant.
6.9B Harmful to human target organs/systems
9.1A Aquatic toxicity

2.2. Label elements
SIGNAL WORD
DANGER!

Symbols:
Health Hazard | Exclamation mark |Environment |

Pictograms

HAZARD STATEMENTS:

H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H360	May damage fertility or the unborn child.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure: kidney/urinary tract skin |
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS
General:

P102	Keep out of reach of children.

Prevention:

P104	Read Safety Data Sheet before use.
P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280E	Wear protective gloves.
P281	Use personal protective equipment as required.
P273	Avoid release to the environment.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P331	Do NOT induce vomiting.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P308 + P313	IF exposed or concerned: Get medical advice/attention.

Storage:

P405	Store locked up.

Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	% by Weight
Isobornyl acrylate	5888-33-5	10 - 30
Isooctyl acrylate	29590-42-9	10 - 30
Tetrahydrofurfuryl acrylate	2399-48-6	10 - 30
1,6-Hexanediol diacrylate	13048-33-4	1 - 10
Amine modified acrylate oligomer	Trade Secret	1 - 10
Urethane acrylate oligomer	Trade Secret	1 - 10
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	1 - 5
Benzophenone	119-61-9	1 - 5
Copper monochlorophthalocyanine	12239-87-1	1 - 5
n,n'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers,w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated	193098-40-7	1 - 5
Pigment Blue 15	147-14-8	1 - 5
High molecular weight block copolymer	Trade Secret	1 - 5
Pigment affinic groups	Trade Secret	1 - 5
Camphene	79-92-5	< 0.2

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. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.
A product risk assessment is recommended to determine if eye wash facilities may be required when using this product in the workplace.

If swallowed
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required
Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
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.

5.4. Hazchem code: 3Z

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. 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. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

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

SECTION 7: Handling and storage

Refer to Section 15: HSNO Controls for more information.

7.1. Precautions for safe handling
For industrial or professional use only. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/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.) Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
Store away from oxidising agents.

7.3. Approved handler test certificate

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
Benzophenone	119-61-9	AIHA	TWA: 0.5 mg/m³	
1,6-Hexanediol diacrylate	13048-33-4	AIHA	TWA:1 mg/m3(0.11 ppm)	Dermal Sensitizer
Copper compounds	147-14-8	ACGIH	TWA(as Cu dust or mist):1 mg/m3;TWA(as Cu, fume):0.2 mg/m3	
Tetrahydrofurfuryl acrylate	2399-48-6	Manufacturer determined	TWA:0.1 ppm(0.64 mg/m3);STEL:0.3 ppm(1.91 mg/m3)	
Isooctyl acrylate	29590-42-9	Manufacturer determined	TWA:5 ppm	
Isooctyl acrylate	29590-42-9	AIHA	TWA:37.5 mg/m3(5 ppm)	

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
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

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect vented goggles.

Refer AS/NZS 1336 - Recommended practices for occupational eye protection and for performance specifications AS/NZS 1337, Parts 1 - 6 - Personal eye-protection.

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl rubber.

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then

use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron – Butyl rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors 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	Liquid.
Specific Physical Form:	Liquid.
Appearance/Odour	Acrylate odour, blue color, liqiud
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	> 93.3 ºC
Flash point	> 93.3 ºC [*Test Method:*Closed Cup]
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	< 1,333.2 Pa [@ 20 ºC]
Vapour density	> 1 [*Ref Std:*AIR=1]
Density	1.04 g/ml
Relative density	1.04 [*Ref Std:*WATER=1]
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*

SECTION 10: Stability and reactivity

10.1 Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation may occur. (Upon depletion of inhibitor or exposure to heat)

10.4 Conditions to avoid
Light.

10.5 Incompatible materials
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

Refer to Section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for 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. 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
Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion
Harmful if swallowed.
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Kidney/Bladder effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination. Dermal effects: Signs/symptoms may include redness, itching, acne, or bumps on the skin.

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.

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	Ingestion		No data available; calculated ATE300 - 2,000 mg/kg
Tetrahydrofurfuryl acrylate	Ingestion	Rat	LD50 551 mg/kg
Isooctyl acrylate	Dermal	Rabbit	LD50 > 2,000 mg/kg
Isooctyl acrylate	Ingestion	Rat	LD50 > 5,000 mg/kg
Isobornyl acrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Isobornyl acrylate	Ingestion	Rat	LD50 4,350 mg/kg
1,6-Hexanediol diacrylate	Dermal	Rabbit	LD50 3,636 mg/kg
1,6-Hexanediol diacrylate	Ingestion	Rat	LD50 > 5,000 mg/kg
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
Benzophenone	Dermal	Rabbit	LD50 3,535 mg/kg
Benzophenone	Ingestion	Rat	LD50 1,900 mg/kg
Pigment Blue 15	Dermal		LD50 estimated to be > 5,000 mg/kg
Pigment Blue 15	Ingestion	Rat	LD50 10,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Tetrahydrofurfuryl acrylate	Rabbit	Irritant
Isooctyl acrylate	In vitro data	No significant irritation
Isobornyl acrylate	Rabbit	Minimal irritation
1,6-Hexanediol diacrylate	Rabbit	Irritant
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Rabbit	No significant irritation
Benzophenone	Rabbit	No significant irritation
Pigment Blue 15	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Tetrahydrofurfuryl acrylate	Rabbit	Severe irritant
Isooctyl acrylate	similar health hazards	Mild irritant
Isobornyl acrylate	Rabbit	Mild irritant
1,6-Hexanediol diacrylate	Rabbit	Moderate irritant
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Rabbit	No significant irritation
Benzophenone	Rabbit	Mild irritant
Pigment Blue 15	Rabbit	No significant irritation
Camphene	Rabbit	Moderate irritant

Skin Sensitisation

Name	Species	Value
Tetrahydrofurfuryl acrylate	Human and animal	Some positive data exist, but the data are not sufficient for classification
Isooctyl acrylate	Mouse	Sensitising
Isobornyl acrylate	Mouse	Sensitising
1,6-Hexanediol diacrylate	Guinea pig	Sensitising

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Mouse	Sensitising
Benzophenone	Guinea pig	Not classified
Pigment Blue 15	Human	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Tetrahydrofurfuryl acrylate	In Vitro	Not mutagenic
Isooctyl acrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Isobornyl acrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
1,6-Hexanediol diacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	In Vitro	Not mutagenic
Benzophenone	In Vitro	Not mutagenic
Benzophenone	In vivo	Not mutagenic
Pigment Blue 15	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Isooctyl acrylate	Dermal	Mouse	Not carcinogenic
1,6-Hexanediol diacrylate	Dermal	Mouse	Not carcinogenic
Benzophenone	Dermal	Multiple animal species	Not carcinogenic
Benzophenone	Ingestion	Multiple animal species	Carcinogenic.
Pigment Blue 15	Ingestion	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Isooctyl acrylate	Dermal	Not classified for female reproduction	Rat	NOAEL 57 mg/kg/day	premating & during gestation
Isooctyl acrylate	Dermal	Not classified for male reproduction	Rat	NOAEL 57 mg/kg/day	premating & during gestation
Isooctyl acrylate	Dermal	Not classified for development	Rat	NOAEL 57 mg/kg/day	premating & during gestation
Isooctyl acrylate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during organogenesis
1,6-Hexanediol diacrylate	Not specified.	Not classified for development	Rat	NOAEL 750 mg/kg/day	during organogenesis
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Ingestion	Toxic to male reproduction	Rat	NOAEL 100 mg/kg/day	90 days
Benzophenone	Ingestion	Not classified for female reproduction	Rat	NOAEL 100 mg/kg/day	2 generation
Benzophenone	Ingestion	Not classified for male reproduction	Rat	NOAEL 80 mg/kg/day	2 generation
Benzophenone	Ingestion	Not classified for development	Rabbit	NOAEL 25 mg/kg/day	during gestation
Pigment Blue 15	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000	premating & during

				mg/kg/day	gestation
Pigment Blue 15	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	42 days
Pigment Blue 15	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Tetrahydrofurfuryl acrylate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Isooctyl acrylate	Inhalation	respiratory irritation	Not classified	Human	NOAEL Not available	occupational exposure
Isooctyl acrylate	Ingestion	central nervous system depression	Not classified	Rat	NOAEL 5,000 mg/kg	
Isobornyl acrylate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	official classification	NOAEL Not available	
1,6-Hexanediol diacrylate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Isooctyl acrylate	Dermal	heart | endocrine system | hematopoietic system | liver | immune system | nervous system | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 57 mg/kg/day	premating & during gestation
Isooctyl acrylate	Ingestion	endocrine system | liver | kidney and/or bladder | heart | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles | nervous system | eyes | respiratory system | vascular system	Not classified	Rat	NOAEL 600 mg/kg/day	90 days
1,6-Hexanediol diacrylate	Dermal	skin	May cause damage to organs though prolonged or repeated exposure	Mouse	LOAEL 70 mg/kg/day	80 weeks
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Ingestion	skin | blood | liver | kidney and/or bladder | nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
Benzophenone	Ingestion	kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 75 mg/kg/day	14 weeks
Benzophenone	Ingestion	heart | hematopoietic system | liver | immune system | endocrine system | bone, teeth, nails,	Not classified	Rat	NOAEL 850 mg/kg/day	14 weeks

		and/or hair | nervous system | eyes | respiratory system				
Pigment Blue 15	Ingestion	endocrine system | hematopoietic system | respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Pigment Blue 15	Ingestion	kidney and/or bladder	Not classified	Multiple animal species	NOAEL Not available	not available

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

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

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.
9.1A Aquatic toxicity

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Algae other	Experimental	72 hours	Effect Concentration 10%	1.56 mg/l
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Water flea	Experimental	48 hours	EC50	3.53 mg/l
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Ricefish	Experimental	48 hours	LC50	6.53 mg/l
Pigment Blue 15	147-14-8		Data not available or insufficient for classification			
Camphene	79-92-5	Sheepshead Minnow	Experimental	96 hours	LC50	1.9 mg/l
Camphene	79-92-5	Zebra Fish	Experimental	96 hours	LC50	0.72 mg/l
Camphene	79-92-5	Water flea	Experimental	48 hours	LC50	22 mg/l
Isobornyl acrylate	5888-33-5	Green Algae	Experimental	72 hours	NOEC	0.405 mg/l

Isobornyl acrylate	5888-33-5	Green algae	Experimental	72 hours	EC50	1.98 mg/l
Isobornyl acrylate	5888-33-5	Water flea	Experimental	21 days	NOEC	0.092 mg/l
Isobornyl acrylate	5888-33-5	Zebra Fish	Experimental	96 hours	LC50	0.704 mg/l
Benzophenone	119-61-9	Fathead minnow	Experimental	7 days	NOEC	2.1 mg/l
Benzophenone	119-61-9	Water flea	Experimental	48 hours	EC50	6.8 mg/l
Benzophenone	119-61-9	Green Algae	Experimental	72 hours	NOEC	1 mg/l
Benzophenone	119-61-9	Green Algae	Experimental	72 hours	EC50	3.5 mg/l
Benzophenone	119-61-9	Water flea	Experimental	21 days	NOEC	0.2 mg/l
Benzophenone	119-61-9	Fathead minnow	Experimental	96 hours	LC50	10.89 mg/l
Isooctyl acrylate	29590-42-9	Green algae	Estimated	72 hours	EC50	0.535 mg/l
Isooctyl acrylate	29590-42-9	Water flea	Experimental	21 days	NOEC	0.065 mg/l
Isooctyl acrylate	29590-42-9	Water flea	Experimental	48 hours	EC50	0.4 mg/l
Isooctyl acrylate	29590-42-9	Fathead minnow	Experimental	96 hours	LC50	0.67 mg/l
1,6-Hexanediol diacrylate	13048-33-4	Green algae	Experimental	72 hours	Effect Concentration 10%	0.585 mg/l
1,6-Hexanediol diacrylate	13048-33-4	Water flea	Experimental	48 hours	EC50	2.6 mg/l
1,6-Hexanediol diacrylate	13048-33-4	Green algae	Experimental	72 hours	EC50	1.5 mg/l
1,6-Hexanediol diacrylate	13048-33-4	Golden Orfe	Experimental	96 hours	LC50	4.6 mg/l
n,n'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers,w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated	193098-40-7		Data not available or insufficient for classification			
Tetrahydrofurfuryl acrylate	2399-48-6		Data not available or insufficient for classification			
Copper monochlorophthalocyanine	12239-87-1		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Isooctyl acrylate	29590-42-9	Experimental Biodegradation	28 days	BOD	93 % weight	OECD 301D - Closed bottle test
Isobornyl acrylate	5888-33-5	Experimental Biodegradation	28 days	CO2 evolution	57 % weight	OECD 310 CO2 Headspace
1,6-Hexanediol diacrylate	13048-33-4	Experimental Biodegradation	28 days	CO2 evolution	60-70 % weight	OECD 310 CO2 Headspace
Camphene	79-92-5	Experimental Biodegradation	28 days	BOD	2 % weight	OECD 301C - MITI test (I)
Benzophenone	119-61-9	Experimental Biodegradation	28 days	BOD	66-84 % weight	OECD 301F - Manometric respirometry
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Experimental Biodegradation	28 days	BOD	<20 % weight	OECD 301F - Manometric respirometry
Tetrahydrofurfuryl acrylate	2399-48-6	Estimated Biodegradation	28 days	BOD	75 % weight	OECD 301C - MITI test (I)
Pigment Blue 15	147-14-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
n,n'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers,w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated	193098-40-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Isooctyl acrylate	29590-42-9	Estimated Photolysis		Photolytic half-life (in air)	1.45-1.78 days (t 1/2)	Other methods
Camphene	79-92-5	Experimental Photolysis		Photolytic half-life (in air)	7.2 hours (t 1/2)	Other methods
Copper monochlorophthalocyanine	12239-87-1	Experimental Biodegradation	28 days	BOD	5 % BOD/ThBOD	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
1,6-Hexanediol diacrylate	13048-33-4	Experimental Bioconcentration		Log Kow	2.81	Other methods
Benzophenone	119-61-9	Experimental BCF - Other	56 days	Bioaccumulation factor	<12	Other methods
Camphene	79-92-5	Experimental BCF-Carp	56 days	Bioaccumulation factor	606-1290	OECD 305C-Bioaccum degree fish
Diphenyl(2,4,6-	75980-60-8	Experimental BCF-Carp	56 days	Bioaccumulation factor	<55	Other methods

trimethylbenzoyl)phosphine oxide						
Tetrahydrofurfuryl acrylate	2399-48-6	Estimated Bioconcentration		Bioaccumulation factor	7.4	Estimated: Bioconcentration factor
Isooctyl acrylate	29590-42-9	Estimated Bioconcentration		Bioaccumulation factor	120-940	Other methods
Isobornyl acrylate	5888-33-5	Estimated BCF - Other	56 hours	Bioaccumulation factor	37	OECD 305E - Bioaccumulation flow-through fish test
Pigment Blue 15	147-14-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
n,n'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers,w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated	193098-40-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Copper monochlorophthalocyanine	12239-87-1	Estimated Bioconcentration		Log Kow	-1.3	Other methods

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
See Section 11.1 Information on toxicological effects

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

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.: UN3082
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Special Instructions: Not restricted, environmentally hazardous substance exception.
Hazchem Code: 3Z
IERG: 47

International Air Transport Association (IATA) - Air Transport
UN No.: UN3082
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Special Instructions: Not restricted, as per Special Provision A197, environmentally hazardous substance exception.

International Maritime Dangerous Goods Code (IMDG) - Marine Transport
UN No.: UN3082
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Marine Pollutant: Not applicable.
Special Instructions: Not restricted, as per IMDG code 2.10.2.7, marine pollutant exception.

SECTION 15: Regulatory information

HSNO Approval number	HSR002679
Group standard name	Surface Coatings and Colourants (Toxic [6.7]) Group Standard 2006
HSNO Hazard classification	Refer to Section 2: Hazard identification

NZ Inventory of Chemicals (NZIoC) Status
All applicable chemical ingredients in this material are in compliance with NZIoC listing requirements.

HSNO Controls

Approved handler test certificate	Not required
Location and transit Depot certification test	Not required
Hazardous atmosphere zone	Not required
Fire extinguishers	Not required
Emergency response plan	100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for all other substances)
Secondary containment	100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for all other substances)
Tracking	Not required
Warning signage	100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a HSNO 8.3A, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for a HSNO 6.1D or 9.1D substance)

SECTION 16: Other information

Revision information:
No revision information

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