Safety Data Sheet

This Safety Data Sheet has been prepared in accordance with the Minister of Industry Decree No. 23/M-IND/PER/4/2013 and GHS Classification 4th Edition.

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SECTION 1: Identification

1.1. Product identifier
3M™ Scotchkote™ Fusion-Bonded Epoxy Coating 6233P (4G, 8G and 11G)

Product Identification Numbers

80-0002-1619-4	80-0002-1621-0	80-6116-1641-0	80-6300-0303-8	80-6300-0304-6
80-6300-0305-3	80-6300-0306-1	80-6300-0307-9	80-6300-0308-7	CE-1007-4039-4
CE-1007-4040-2	CE-1007-4041-0	CE-1007-4042-8	CE-1007-4043-6	CE-1007-4044-4
CE-1007-4045-1	CE-1007-4046-9	CE-1007-4047-7	CJ-0004-1519-5	CJ-0004-1521-1
UU-0094-5764-7	UU-0110-5306-1			

1.2. Recommended use and restrictions on use

Recommended use
Coating, Pipe Coating

1.3. Supplier's details
ADDRESS: PT 3M Indonesia , Perkantoran Hijau Arkadia, Menara F, Lt. 8. Jl. TB. Simatupang Kav. 88, Jakarta Selatan, 12520, Indonesia
Telephone: +6221-29974000
Website: https://www.3m.co.id/3M/en_ID/company-id/

1.4. Emergency telephone number
(021)29974000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 2.
Carcinogenicity: Category 1A.

2.2. Label elements
Signal word
Danger

Symbols

Exclamation mark | Health Hazard |

Pictograms

Hazard statements

H317	May cause an allergic skin reaction.
H361	Suspected of damaging fertility or the unborn child.
H350	May cause cancer.

Precautionary statements

Prevention:

P201	Obtain special instructions before use.
P280E	Wear protective gloves.

Response:

P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
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.

2.3. Other hazards

May form combustible dust concentrations in air.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	25036-25-3	40 - 70
Calcium Silicate	13983-17-0	10 - 30
4,4'-isopropylidenediphenol-epichlorohydrin polymer	25068-38-6	1 - 5
Epoxy Resin - Amine Condensate	68002-42-6	0.5 - 3
Titanium Dioxide	13463-67-7	1 - 3
Dicyandiamide	461-58-5	0.5 - 1.5
Pigment Additive	Trade Secret	0.5 - 1.5
4,4'-Isopropylidenediphenol	80-05-7	< 1
Quartz Silica	14808-60-7	< 0.4

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:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

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

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

Allergic skin reaction (redness, swelling, blistering, and itching).

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
Powdered material may form explosive dust-air mixture. Avoid fire fighting methods that would cause powders to become airborne.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Ammonia	During Combustion
Oxides of Nitrogen	During Combustion

5.3. Special protective actions for fire-fighters
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. Eliminate all ignition sources if safe to do so. 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.

6.3. Methods and material for containment and cleaning up
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Vacuum to avoid dusting. WARNING! A motor could be an ignition source and cause combustible dust in the spill area to burn or explode. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. 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
Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Use personal protective equipment (gloves, respirators, etc.) as required. Dust clouds of this material in sufficient concentration in combination with an ignition source may be explosive. Dust deposits should not be allowed to accumulate on surfaces because of the potential for secondary explosions. Routine housekeeping should be instituted to ensure that combustible dusts do not accumulate on surfaces. Solids can generate static electricity charges when transferred and in mixing operations sufficient to be an ignition source. Evaluate the need for precautions, such as grounding and bonding, low energy transfer of material (e.g. low speed, short distance), or inert atmospheres.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.

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
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	Indonesia OELs	TWA(8 hours):10 mg/m3	
Calcium Silicate	13983-17-0	ACGIH	TWA(inhalable fraction):1 mg/m3	A4: Not class. as human carcin
Quartz Silica	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
Quartz Silica	14808-60-7	Indonesia OELs	TWA(respirable particles)(8 hours):0.025 mg/m3	
Pigment Additive	Trade Secret	ACGIH	TWA(inhalable fraction):10 mg/m3	A4: Not class. as human carcin
Pigment Additive	Trade Secret	Indonesia OELs	TWA(inhalable particulates)(8 hours):10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
Indonesia OELs : Indonesia. Minister of Manpower and Transmigration Decree No. 13/MEN/X/2011 concerning Threshold Values, Chemical and Physical Factors in the Workplace.
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
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/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Provide local exhaust at process emission sources to control exposure near the source and to prevent the escape of dust into the work area. It is recommended that all dust control equipment (such as local exhaust ventilation), process

equipment, and material transport systems involved in handling of this product be evaluated for the need for explosion-protection safeguards. Recognized safeguards include explosion relief vents, explosion suppression systems, and oxygen deficient process environments. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Evaluate the need for electrically classified equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

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

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 particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Specific Physical Form:	Powder
Color	Green
Odor	Epoxy
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*No Data Available*
Boiling point/Initial boiling point/Boiling range	*Not Applicable*
Flash Point	No flash point
Evaporation rate	*Not Applicable*
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	*Not Applicable*

Vapor Density and/or Relative Vapor Density	*Not Applicable*
Density	1.4 g/cm3
Relative Density	1.4 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*Not Applicable*
Decomposition temperature	*No Data Available*
Viscosity/Kinematic Viscosity	*Not Applicable*
Volatile Organic Compounds	0 %
Percent volatile	0 %
VOC Less H2O & Exempt Solvents	0 %
Average particle size	*No Data Available*
***Dust deflagration index (Kst)**	70 - 250 bar.m/s [*Details:*Typical Range]
***Min. explosible conc.(MEC)**	35 - 55 g/m3 [*Details:*Typical Range]
***Min. ignition energy (MIE)**	3 - 100 mJ [*Details:*Typical Range]
***Min. ign temp(MIT)-dust cloud**	450 - 550 ºC [*Details:*Typical Range]

Nanoparticles
This material contains nanoparticles.
* The values noted with an asterisk (*) in the above table are representative values based on testing of raw materials and selected products. Additionally, a material's characteristics may change depending upon the process and conditions of use at a facility, including further changes in particle size, or mixture with other materials. In order to obtain specific data for the material, we recommend the user conduct characterization testing based on the use factors at the specific facility.

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
None known.

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:
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:
Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Photosensitization: Signs/symptoms may include a sunburn-like reaction such as blistering, redness, swelling, and itching from minor exposure to sunlight.

Eye Contact:
Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

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:

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 ATE >5,000 mg/kg
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Dermal	Rat	LD50 > 1,600 mg/kg
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	Rat	LD50 > 1,000 mg/kg
Calcium Silicate	Dermal		LD50 estimated to be > 5,000 mg/kg
Calcium Silicate	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Ingestion	Rat	LD50 > 1,000 mg/kg
Epoxy Resin - Amine Condensate	Dermal	Rat	LD50 > 2,000 mg/kg
Epoxy Resin - Amine Condensate	Ingestion	Rat	LD50 > 2,000 mg/kg
Pigment Additive	Dermal	Professional judgeme	LD50 estimated to be 2,000 - 5,000 mg/kg

		nt	
Pigment Additive	Ingestion	Rat	LD50 3,870 mg/kg
Dicyandiamide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Dicyandiamide	Ingestion	Rat	LD50 > 30,000 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
4,4'-Isopropylidenediphenol	Dermal	Rabbit	LD50 > 2,000 mg/kg
4,4'-Isopropylidenediphenol	Ingestion	Rat	LD50 3,200 mg/kg
Quartz Silica	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz Silica	Ingestion		LD50 estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Rabbit	No significant irritation
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Rabbit	Mild irritant
Epoxy Resin - Amine Condensate	Rabbit	No significant irritation
Pigment Additive	Professional judgement	No significant irritation
Dicyandiamide	Human and animal	Minimal irritation
Titanium Dioxide	Rabbit	No significant irritation
4,4'-Isopropylidenediphenol	Rabbit	No significant irritation
Quartz Silica	Professional judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Rabbit	Mild irritant
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Rabbit	Moderate irritant
Epoxy Resin - Amine Condensate	Rabbit	No significant irritation
Dicyandiamide	Professional judgement	Mild irritant
Titanium Dioxide	Rabbit	No significant irritation
4,4'-Isopropylidenediphenol	Rabbit	Corrosive

Sensitization:

Skin Sensitization

Name	Species	Value
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Guinea pig	Not classified
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Human and animal	Sensitizing
Epoxy Resin - Amine Condensate	Guinea pig	Sensitizing
Dicyandiamide	Guinea pig	Not classified
Titanium Dioxide	Human	Not classified

	and animal	
4,4'-Isopropylidenediphenol	official classification	Sensitizing

Photosensitization

Name	Species	Value
4,4'-Isopropylidenediphenol	Human and animal	Sensitizing

Respiratory Sensitization

Name	Species	Value
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Human	Not classified
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	In vivo	Not mutagenic
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	In Vitro	Some positive data exist, but the data are not sufficient for classification
Calcium Silicate	In Vitro	Not mutagenic
4,4'-isopropylidenediphenol-epichlorohydrin polymer	In vivo	Not mutagenic
4,4'-isopropylidenediphenol-epichlorohydrin polymer	In Vitro	Some positive data exist, but the data are not sufficient for classification
Epoxy Resin - Amine Condensate	In Vitro	Not mutagenic
Pigment Additive	In Vitro	Not mutagenic
Dicyandiamide	In Vitro	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic
4,4'-Isopropylidenediphenol	In vivo	Not mutagenic
4,4'-Isopropylidenediphenol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Pigment Additive	Not Specified	Human and animal	Some positive data exist, but the data are not sufficient for classification
Dicyandiamide	Ingestion	Rat	Not carcinogenic
Titanium Dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium Dioxide	Inhalation	Rat	Carcinogenic
4,4'-Isopropylidenediphenol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	Inhalation	Human and animal	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Dicyandiamide	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
Dicyandiamide	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	44 days
Dicyandiamide	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
4,4'-Isopropylidenediphenol	Ingestion	Not classified for female reproduction	Multiple animal species	NOAEL 50 mg/kg/day	
4,4'-Isopropylidenediphenol	Ingestion	Not classified for male reproduction	Multiple animal species	NOAEL 50 mg/kg/day	
4,4'-Isopropylidenediphenol	Ingestion	Toxic to development	Multiple animal species	NOAEL 50 mg/kg/day	

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Pigment Additive	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	
4,4'-Isopropylidenediphenol	Inhalation	respiratory irritation	May cause respiratory irritation	Multiple animal species	LOAEL 0.152 mg/l	15 minutes

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

Calcium Silicate	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Calcium Silicate	Inhalation	pulmonary fibrosis	Not classified	Human and animal	NOAEL Not available	
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'-isopropylidenediphenol-epichlorohydrin polymer	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Dicyandiamide	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 6,822 mg/kg/day	13 weeks
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
4,4'-Isopropylidenediphenol	Inhalation	liver | kidney and/or bladder | hematopoietic system	Not classified	Rat	NOAEL 0.15 mg/l	13 weeks
4,4'-Isopropylidenediphenol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 50 mg/kg/day	3 generation
4,4'-Isopropylidenediphenol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 370 mg/kg/day	13 weeks
4,4'-Isopropylidenediphenol	Ingestion	endocrine system | hematopoietic system	Not classified	Rat	NOAEL 500 mg/kg/day	3 generation
4,4'-Isopropylidenediphenol	Ingestion	nervous system	Not classified	Rat	NOAEL 185 mg/kg/day	90 days
4,4'-Isopropylidenediphenol	Ingestion	heart | bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 2,400 mg/kg/day	13 weeks
Quartz Silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure

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 labeling, 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

Acute aquatic hazard:

Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	25036-25-3		Data not available or insufficient for classification			N/A
Calcium Silicate	13983-17-0		Data not available or insufficient for classification			N/A
4,4'-isopropylidene diphenol-epichlorohydrin polymer	25068-38-6		Data not available or insufficient for classification			N/A
Epoxy Resin - Amine Condensate	68002-42-6	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
Epoxy Resin - Amine Condensate	68002-42-6	Green Algae	Experimental	72 hours	EC50	>100 mg/l
Epoxy Resin - Amine Condensate	68002-42-6	Rainbow Trout	Experimental	96 hours	LC50	>160 mg/l
Epoxy Resin - Amine Condensate	68002-42-6	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium Dioxide	13463-67-7	Activated sludge	Experimental	3 hours	NOEC	>=1,000 mg/l
Titanium Dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium Dioxide	13463-67-7	Fathead Minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium Dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium Dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
Dicyandiamide	461-58-5	Bluegill	Experimental	96 hours	LC50	>1,000 mg/l
Dicyandiamide	461-58-5	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
Dicyandiamide	461-58-5	Water flea	Experimental	48 hours	EC50	3,177 mg/l
Dicyandiamide	461-58-5	Green algae	Experimental	72 hours	NOEC	310 mg/l
Dicyandiamide	461-58-5	Water flea	Experimental	21 days	NOEC	25 mg/l
Dicyandiamide	461-58-5	Redworm	Experimental	14 days	LC50	>3,200 mg/kg (Dry Weight)
Pigment Additive	Trade Secret		Data not available or insufficient for			N/A

			classification			
4,4'-Isopropylidene diphenol	80-05-7	Activated sludge	Experimental	3 hours	EC50	58.4 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Atlantic Silverside	Experimental	96 hours	LC50	9.4 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Bacteria	Experimental	18 hours	EC10	>320 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Diatom	Experimental	96 hours	EC50	1.1 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Fathead Minnow	Experimental	96 hours	LC50	4.6 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Green Algae	Experimental	96 hours	EC50	2.73 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Mysid Shrimp	Experimental	96 hours	LC50	1.1 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Water flea	Experimental	48 hours	EC50	10.2 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Crustecea other	Experimental	328 days	NOEC	0.025 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Diatom	Experimental	96 hours	EC10	0.4 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Fathead Minnow	Experimental	444 days	NOEC	0.016 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Green Algae	Experimental	96 hours	EC10	1.36 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Mysid Shrimp	Experimental	28 days	NOEC	0.17 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Sheepshead Minnow	Experimental	116 days	NOEC	0.066 mg/l
Quartz Silica	14808-60-7	Green Algae	Estimated	72 hours	EC50	440 mg/l
Quartz Silica	14808-60-7	Water flea	Estimated	48 hours	EC50	7,600 mg/l
Quartz Silica	14808-60-7	Zebra Fish	Estimated	96 hours	LC50	5,000 mg/l
Quartz Silica	14808-60-7	Green Algae	Estimated	72 hours	NOEC	60 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Bisphenol A Diglycidyl Ether-	25036-25-3	Estimated Biodegradation	28 days	Biological Oxygen Demand	7 % BOD/ThBOD	OECD 301C - MITI (I)

Bisphenol A Copolymer						
Calcium Silicate	13983-17-0	Data not availbl-insufficient			N/A	
4,4'-isopropylidene diphenol-epichlorohydrin polymer	25068-38-6	Estimated Biodegradation	28 days	Biological Oxygen Demand	7 % BOD/ThBOD	OECD 301C - MITI (I)
Epoxy Resin - Amine Condensate	68002-42-6	Experimental Biodegradation	21 days	Biological Oxygen Demand	0.8 % weight	OECD 301D - Closed Bottle Test
Titanium Dioxide	13463-67-7	Data not availbl-insufficient			N/A	
Dicyandiamide	461-58-5	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	0 %removal of DOC	OECD 301E - Modif. OECD Screen
Dicyandiamide	461-58-5	Experimental Aquatic Inherent Biodegrad.	14 days	Dissolv. Organic Carbon Deplet	0 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
Dicyandiamide	461-58-5	Experimental Biodegradation	61 days	Carbon dioxide evolution	1.1 %CO2 evolution/THCO2 evolution	OECD 309 Aero Sim Biod Water
Pigment Additive	Trade Secret	Data not availbl-insufficient			N/A	
4,4'-Isopropylidene diphenol	80-05-7	Experimental Biodegradation	28 days	Biological Oxygen Demand	81.4 % BOD/ThBOD	OECD 301F - Manometric Respiro
Quartz Silica	14808-60-7	Data not availbl-insufficient			N/A	

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	25036-25-3	Estimated Bioconcentration		Bioaccumulation Factor	7.4	Est: Bioconcentration factor
Calcium Silicate	13983-17-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-isopropylidene diphenol-epichlorohydrin polymer	25068-38-6	Estimated Bioconcentration		Bioaccumulation Factor	7.4	Non-standard method
Epoxy Resin - Amine	68002-42-6	Experimental Bioconcentrati		Log of Octanol/H2O	2.37	Non-standard method

Condensate		on		part. coeff		
Titanium Dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation Factor	9.6	Non-standard method
Dicyandiamide	461-58-5	Experimental BCF-Carp	42 days	Bioaccumulation Factor	<=3.1	OECD305-Bioconcentration
Dicyandiamide	461-58-5	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-0.52	OECD 107 log Kow shke flsk mtd
Pigment Additive	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-Isopropylidene diphenol	80-05-7	Experimental BCF-Carp	42 days	Bioaccumulation Factor	≤67	Non-standard method
Quartz Silica	14808-60-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

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

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.

SECTION 14: Transport Information

Local Regulations
Land Transport: In accordance with Director General of Land Transportation Decree No. SK.725/AJ.302/DRJD/2004 which refer to UN Standard.
Sea Transport: In accordance with Minister of Transportation Decree No. KM 2/2010 which refer to IMDG Code Standard.

International Regulations

UN No.: Not applicable
UN Proper Shipping Name: Not applicable
Transportation Class (IMO): Not applicable
Transportation Class (IATA): Not applicable
Packing Group: Not applicable
Marine Pollutant: Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status
Contact 3M for more information. The components of this product are in compliance with the new substance notification requirements of CEPA. 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.

Local Inventory Status

Addendum I Government Regulation No. 74/2001:
List of Hazardous Substances Approved for Use :
Lead is listed as a Hazardous Substance Approved for Use.
Methyl Alcohol is listed as a Hazardous Substance Approved for Use.
PHENOL is listed as a Hazardous Substance Approved for Use.

Addendum II Government Regulation No. 74/2001:
Tab.1 List of Prohibited Substances for Use:
HEXACHLOROBENZENE is listed as a Prohibited Substance for Use.

Addendum II Government Regulation No. 74/2001:
Tab.2 List of Restricted Substances for Use:
None of the substances are listed as a Restricted Substance for Use.

Addendum I Ministry of Health Regulation No. 472/1996:
List and Classification of Hazardous Substances for Health:
HEXACHLOROBENZENE is listed and classified as a Hazardous Substance for Health.
PHENOL is listed and classified as a Hazardous Substance for Health.

Addendum I Act of Minister of Industry and Trade No. 254/MPP/KEP/2000
List of Hazardous Substances that are Regulated to Import Trade System:
None of the substances are listed and classified as a Hazardous Substance that is Regulated to Import Trade System.

SECTION 16: Other information

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3M Indonesia SDSs are available at https://www.3m.co.id/3M/en_ID/company-id/