SAFETY DATA SHEET

ABS PVC 003.000% M38539 ULTRA BLUE

Substance key: 000000650007	Revision Date: 09/22/2020
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SECTION 1. IDENTIFICATION

Identification of the company:	Avient Colorants Canada Inc. 2 Lone Oak Court Toronto, Ontario, M9C 5R9 Telephone No.: +1 514-832-2559 **Information of the substance/preparation:** Product Stewardship e-mail: SDS.NORAMMB@Clariant.com **Emergency tel. number:** +1 CANUTEC (613) 996-6666
Trade name:	**ABS PVC 003.000% M38539 ULTRA BLUE**
Material number:	SB53754455
Chemical family:	Colourant preparation Carrier: ABS
Primary product use:	Additive for plastic material processing

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

Hazards Not Otherwise Classified:
If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Colourant preparation
Carrier: ABS

Components

Chemical name	CAS-No.	Concentration (% w/w)
C.I. Pigment Black 7	1333-86-4	0.1 - 1
Aluminium oxide	1344-28-1	0.1 - 1
5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione	980-26-7	1 - 5
N,N'-Ethylenedi(stearamide)	110-30-5	1 - 5
C.I. Pigment Blue 15:3	147-14-8	5 - 10
C.I. Pigment White 6	13463-67-7	10 - 30

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) and by the Canadian WHMIS 2015 Hazardous Products Regulations (SOR/2015-

17)., The hazardous ingredients of this product are encapsulated, therefore the material is not GHS classified for health and environmental hazards as exposure is not expected., Any concentration shown as a range is due to batch variation.

SECTION 4. FIRST AID MEASURES

If inhaled	:	Move the victim to fresh air. Give oxygen or artificial respiration if needed. Get immediate medical advice/ attention. Never give anything by mouth to an unconscious person.
In case of skin contact	:	Wash off immediately with plenty of water for at least 15 minutes. In case of burns apply cold water until pain subsides then seek medical advice. Burns must be treated by a physician. If molten polymer contact the skin, cool rapidly with cold water. Do not attempt to peel polymer from skin. Obtain medical attention for thermal burn. Skin absorption of reground pellets is unlikely.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately if irritation develops and persists.
If swallowed	:	Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical advice/ attention.
Most important symptoms and effects, both acute and delayed	:	The possible symptoms known are those derived from the labelling (see section 2). No additional symptoms are known.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	In case of fire hazardous decomposition products may be produced such as: Styrene Hydrogen cyanide (hydrocyanic acid)

Acrylonitrile
Carbon monoxide
Carbon dioxide (CO2)
Nitrogen oxides (NOx)
Take measures to prevent the build up of electrostatic charge.
Dust can form an explosive mixture in air.
Sulphur oxides
Metal oxides

Further information : Combustible material
In the event of fire and/or explosion do not breathe fumes.
During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion
Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Do not allow run-off from fire fighting to enter drains or water courses.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.
Avoid contact with skin, eyes and clothing.
Wash thoroughly after handling.

Environmental precautions : Do not allow contact with soil, surface or ground water.
Prevent product from entering drains.

Methods and materials for containment and cleaning up : Avoid dust formation.
Take measures to prevent the build up of electrostatic charge.
Sweep up and shovel into suitable containers for disposal.
Take up uncontaminated material and pass on for further processing.
After cleaning, flush away traces with water.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Take measures to prevent the build up of electrostatic charge.

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice.
Use only with adequate ventilation/personal protection.
For personal protection see section 8.
Avoid contact with skin, eyes and clothing.
Use only with adequate ventilation.

When handling hot melts use suitable protective clothing.
Avoid dust formation. Keep away from sources of ignition.
Lead off electrostatic charges.

Conditions for safe storage : Keep container tightly closed in a cool, well-ventilated place.
Protect from moisture.
Keep away from direct sunlight.

Further information on storage conditions : Store in a cool, dry, well-ventilated area. Keep container sealed when not in use.
Keep in an area equipped with sprinklers.
Minimize dust generation and accumulation.

Materials to avoid : not required

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
N,N'-Ethylenedi(stearamide)	110-30-5	TWA	10 mg/m3	CA AB OEL
		TWA	10 mg/m3	CA BC OEL
		TWA (Inhalable particulate matter)	10 mg/m3	ACGIH
		TWA (Respirable particulate matter)	3 mg/m3	ACGIH
C.I. Pigment Blue 15:3	147-14-8	TWA	1 mg/m3 (Copper)	NIOSH REL
C.I. Pigment Black 7	1333-86-4	TWA	3.5 mg/m3	CA AB OEL
		TWA (Inhalable)	3 mg/m3	CA BC OEL
		TWAEV	3.5 mg/m3	CA QC OEL
		TWA (Inhalable particulate matter)	3 mg/m3	ACGIH
C.I. Pigment White 6	13463-67-7	TWA	10 mg/m3	CA AB OEL
		TWA (Total dust)	10 mg/m3	CA BC OEL
		TWA (respirable dust fraction)	3 mg/m3	CA BC OEL
		TWAEV (total dust)	10 mg/m3	CA QC OEL
Aluminium oxide	1344-28-1	TWA	10 mg/m3	CA AB OEL
		TWAEV	10 mg/m3	CA QC OEL

		(total dust)	(Aluminium)	
		TWA (Respirable)	1 mg/m3 (Aluminium)	CA BC OEL
		TWA (Respirable particulate matter)	1 mg/m3 (Aluminium)	ACGIH

Engineering measures : Use only in area provided with appropriate exhaust ventilation.
Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.
Use engineering controls such as local or general exhaust to maintain airborne concentrations below exposure limits.

Personal protective equipment

Respiratory protection : Use NIOSH/MSHA approved respirators following manufacturer's recommendations where dust or fume may be generated.
Use respiratory protective equipment when using this product at elevated temperatures (see section 8).

Hand protection
Remarks : Nitrile rubber gloves. Impervious butyl rubber gloves PVC Neoprene gloves When handling hot material, use heat resistant gloves.

Eye protection : Safety glasses with side-shields

Skin and body protection : Wear protective clothing, including long sleeves and gloves, to prevent skin contact.
When handling hot melts use suitable protective clothing.

Hygiene measures : The usual Industrial Hygiene precautions must be taken during work, in particular: do not drink, eat or smoke during the handling of the product and clean hands and face during work intervals and after work.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Granules

Colour : blue

Odour : characteristic

Odour Threshold : Not applicable

pH : Not applicable

Melting point	:	> 90 °C
Boiling point	:	Not applicable
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	not determined
Self-ignition	:	Not applicable
Upper explosion limit / upper flammability limit	:	not tested.
Lower explosion limit / Lower flammability limit	:	not tested.
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	not available
Density	:	not tested.
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	This property is not applicable for mixtures.
Decomposition temperature	:	To the best of our current knowledge, no thermal decomposition of the product is expected if it is processed according to good manufacturing practices. See section 10.4. "Conditions to avoid"
Viscosity		
Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	Not applicable
Explosive properties	:	no data available no data available
Oxidizing properties	:	not available
Surface tension	:	Not relevant
Particle size	:	Product specific

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	To avoid thermal decomposition, do not overheat. Heating can release hazardous gases. Keep away from heat, sparks, open flames, and other sources of ignition. If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Keep away from heat and sources of ignition.
Incompatible materials	:	none no data available Strong oxidizing agents
Hazardous decomposition products	:	Stable under recommended storage conditions. No hazardous decomposition products if stored and handled as prescribed

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

None known.

Acute toxicity

Product:

Acute inhalation toxicity	:	Acute toxicity estimate: 33.87 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: 2,971 mg/kg Method: Calculation method

Components:

C.I. Pigment Black 7:

Acute oral toxicity	:	LD50 (Rat, male and female): > 10,000 mg/kg Method: OECD Test Guideline 401 GLP: no Remarks: No significant adverse effects were reported

Acute inhalation toxicity	:	LC0 (Rat): > 0.0046 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: No information available. Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	Remarks: not required

Aluminium oxide:

Acute oral toxicity	:	LD50 (Rat, male and female): > 10,000 mg/kg Method: OECD Test Guideline 401 GLP: No information available.
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 2.3 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: yes Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	Remarks: Not applicable

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 423 GLP: yes Assessment: The substance or mixture has no acute oral toxicity Remarks: No significant adverse effects were reported
Acute inhalation toxicity	:	LC0 (Rat, male and female): 3.055 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: yes Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402 GLP: yes Assessment: The substance or mixture has no acute dermal toxicity Remarks: By analogy with a product of similar composition

N,N'-Ethylenedi(stearamide):

Acute oral toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 401

Acute inhalation toxicity	:	LC50 (Rat, male and female): > 6.3 mg/l Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rabbit, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402

C.I. Pigment Blue 15:3:

Acute oral toxicity	:	LD50 (Rat, male and female): > 6,400 mg/kg Method: OECD Test Guideline 401 GLP: no Remarks: No significant adverse effects were reported
Acute inhalation toxicity	:	Remarks: no data available
Acute dermal toxicity	:	LD50 (Rat, male): > 5,000 mg/kg Method: OECD Test Guideline 402 GLP: no
Acute toxicity (other routes of administration)	:	LD50 (Mouse, male and female): > 2,000 mg/kg Application Route: Intraperitoneal injection Method: internal test Test substance: other TS GLP: no

C.I. Pigment White 6:

Acute oral toxicity	:	LD50 (Rat, female): > 5,000 mg/kg Method: OECD Test Guideline 425 GLP: no
Acute inhalation toxicity	:	LC50 (Rat, male and female): 3.4 - 5.1 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: no Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	Assessment: The substance or mixture has no acute dermal toxicity Remarks: not required

Skin corrosion/irritation

Product:

Result: No skin irritation

Components:

C.I. Pigment Black 7:

Species: Rabbit
Exposure time: 4 - 24 h

Method: OECD Test Guideline 404
Result: No skin irritation
GLP: no

Aluminium oxide:

Species: Rabbit
Exposure time: 24 h
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: No information available.

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Species: Rabbit
Exposure time: 4 h
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: yes

N,N'-Ethylenedi(stearamide):

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

C.I. Pigment Blue 15:3:

Species: Rabbit
Exposure time: 20 h
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: no

C.I. Pigment White 6:

Species: Rabbit
Exposure time: 4 h
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: no

Serious eye damage/eye irritation

Product:

Result: No eye irritation

Components:

C.I. Pigment Black 7:

Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
GLP: no

Aluminium oxide:

Result: Mild eye irritation

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Species: Rabbit
Result: No eye irritation
Exposure time: 72 h
Method: OECD Test Guideline 405
GLP: yes

N,N'-Ethylenedi(stearamide):

Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

C.I. Pigment Blue 15:3:

Species: Rabbit
Result: No eye irritation
Exposure time: 24 h
Method: OECD Test Guideline 405
GLP: no

C.I. Pigment White 6:

Species: rabbit eye
Result: No eye irritation
Method: OECD Test Guideline 405
GLP: No information available.

Respiratory or skin sensitisation

Product:

Result: non-sensitizing

Components:

C.I. Pigment Black 7:

Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Not a skin sensitizer.
GLP: yes

Aluminium oxide:

Test Type: Draize Test
Exposure routes: Dermal
Species: Guinea pig
Method: Draize Test
Result: Not a skin sensitizer.

GLP: no

Test Type: Respiratory system
Exposure routes: inhalation (dust/mist/fume)
Species: Mouse
Method: Other
Result: Not a skin sensitizer.
GLP: no

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Test Type: Maximisation Test
Exposure routes: Dermal
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Not a skin sensitizer.
GLP: yes

Test Type: Local lymph node assay (LLNA)
Exposure routes: Dermal
Species: Mouse
Method: OECD Test Guideline 429
Result: Not a skin sensitizer.
GLP: yes

N,N'-Ethylenedi(stearamide):

Species: Mouse
Method: OECD Test Guideline 429
Result: Not a skin sensitizer.

C.I. Pigment Blue 15:3:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Dermal
Species: Mouse
Method: OECD Test Guideline 429
Result: Not a skin sensitizer.
GLP: yes

Test Type: Maximisation Test
Exposure routes: Dermal
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Not a skin sensitizer.
GLP: yes

C.I. Pigment White 6:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Dermal
Species: Mouse
Method: OECD Test Guideline 429
Result: Not a skin sensitizer.
GLP: No information available.

Test Type: Buehler Test
Exposure routes: Dermal
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Not a skin sensitizer.
GLP: yes

Test Type: Respiratory system
Exposure routes: inhalation (dust/mist/fume)
Species: Mouse
Method: Other
Result: Does not cause respiratory sensitisation.
GLP: No information available.

Germ cell mutagenicity

Components:

C.I. Pigment Black 7:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: In vitro gene mutation study in mammalian cells
Test system: Rodent cell line
Metabolic activation: without
Method: OECD Test Guideline 476
Result: positive
GLP: No information available.

Test Type: Micronucleus test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 487
Result: negative
GLP: yes

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

Aluminium oxide:

Genotoxicity in vitro : Test Type: In vitro gene mutation study in mammalian cells
Test system: mouse lymphoma cells
Concentration: 6,1 - 780 µg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes
Remarks: By analogy with a product of similar composition

Genotoxicity in vivo : Test Type: Chromosome Aberration Test
Species: Rat (female)
Strain: wistar
Cell type: Bone marrow
Application Route: oral (gavage)
Exposure time: Single exposure
Dose: 500 - 1000 - 2000 mg/kg
Method: OECD Test Guideline 475
Result: positive
GLP: No information available.

Test Type: Micronucleus test
Species: Rat (female)
Strain: wistar
Cell type: Bone marrow
Application Route: oral (gavage)
Exposure time: Single exposure
Dose: 500 - 1000 - 2000 mg/kg
Method: OECD Test Guideline 474
Result: positive
GLP: No information available.

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 3 - 5000 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: Ames test
Test system: Escherichia coli
Concentration: 3 - 5000 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: In vitro gene mutation study in mammalian cells
Test system: Chinese hamster lung cells
Concentration: 2 - 20 µg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster lung cells

Concentration: 0,31 - 200 µg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes
Remarks: By analogy with a product of similar composition

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Strain: NMRI
Cell type: Bone marrow cells
Application Route: oral (gavage)
Exposure time: single administration
Dose: 2500 mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects, In vivo tests did not show mutagenic effects

N,N'-Ethylenedi(stearamide):

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster lung cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Test Type: Mammalian cell gene mutation assay
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects

C.I. Pigment Blue 15:3:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 20 - 10000 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: no

Test Type: Ames test

Test system: Salmonella typhimurium
Concentration: 25 - 5000 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: No information available.

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster cells
Concentration: 750 - 3000 µg/ml
Metabolic activation: with and without metabolic activation
Method: Other
Result: negative
GLP: No information available.

Test Type: In vitro mammalian cell gene mutation test
Test system: rat hepatocytes
Method: OECD Test Guideline 482
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: in vivo assay
Species: Mouse (male and female)
Strain: C57BL/6 x DBA/2
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 484
Result: negative
GLP: No information available.

Test Type: Micronucleus test
Species: Hamster (male and female)
Cell type: Bone marrow cells
Application Route: oral (gavage)
Exposure time: 48 h
Dose: 1250 - 2500 - 5000 mg/kg
Method: Other
Result: negative
GLP: No information available.

Germ cell mutagenicity - Assessment : In vivo tests did not show mutagenic effects, In vitro tests did not show mutagenic effects

In vivo tests did not show mutagenic effects, In vitro tests did not show mutagenic effects

C.I. Pigment White 6:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 333 - 5000 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: Ames test
Test system: Escherichia coli
Concentration: 333 - 5000 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Strain: ICR
Cell type: Erythrocytes
Application Route: oral (gavage)
Exposure time: single treatment
Dose: 500 - 1000 - 2000 mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects, In vivo tests did not show mutagenic effects

Carcinogenicity

Components:

C.I. Pigment Black 7:

Remarks: Carbon Black should not be classified for carcinogenicity according to the criteria of the Globally Harmonized System of Classification and Labelling of Chemicals. Human health studies show that exposure to carbon black does not increase the risk of carcinogenicity. Studies in laboratory animals show that lung tumors are induced in rats as a result of repeated exposure to inert, poorly soluble particles like carbon black and other poorly soluble particles. Rat tumors are a result of a secondary non-genotoxic mechanism associated with the phenomenon of lung overload. This is a species-specific mechanism that has questionable relevance for classification in humans. Thus a carcinogenicity classification for Carbon Black is not warranted.

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Aluminium oxide:

Carcinogenicity - Assessment : Carcinogenicity classification not possible from current data.

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Carcinogenicity - Assessment : No information available.

N,N'-Ethylenedi(stearamide):

Carcinogenicity - Assessment : No information available.

C.I. Pigment Blue 15:3:

Carcinogenicity - Assessment	:	No information available.
		No information available.

C.I. Pigment White 6:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

Reproductive toxicity

Components:

C.I. Pigment Black 7:

Effects on foetal development	:	Test Type: Pre-natal Species: Rabbit, male and female Strain: New Zealand white Application Route: Inhalation Dose: 10% diesel exhaust emission Duration of Single Treatment: 12 d Method: OECD Test Guideline 414 Result: No effects on fertility and early embryonic development were detected. GLP: no Remarks: By analogy with a product of similar composition
Reproductive toxicity - Assessment	:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

Aluminium oxide:

Effects on fertility	:	Species: Rat, male and female Strain: Sprague-Dawley Application Route: Drinking water Dose: 57 - 189 - 567 mg/kg General Toxicity - Parent: NOAEL: ca. 567 mg/kg body weight General Toxicity F1: NOAEL: ca. 57 mg/kg body weight Method: Other GLP: yes Remarks: By analogy with a product of similar composition
Effects on foetal development	:	Species: Rat Strain: wistar Application Route: oral (gavage) Dose: 126 - 251 - 503 mg/kg Frequency of Treatment: 2 daily General Toxicity Maternal: NOAEL: > 100 mg/kg body weight Teratogenicity: NOAEL: 503 mg/kg body weight Method: OECD Test Guideline 414 GLP: No information available. Remarks: By analogy with a product of similar composition

Reproductive toxicity - Assessment	:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments. No teratogenic effects to be expected.

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Reproductive toxicity - Assessment	:	No information available.

N,N'-Ethylenedi(stearamide):

Effects on foetal development	:	Test Type: Pre-natal Species: Rat Strain: Sprague-Dawley Application Route: oral (gavage) General Toxicity Maternal: NOAEL: >= 1,000 mg/kg body weight Method: OECD Test Guideline 414
Reproductive toxicity - Assessment	:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

C.I. Pigment Blue 15:3:

Effects on fertility	:	Test Type: One generation study Species: Rat, male and female Strain: Sprague-Dawley Application Route: oral (gavage) Dose: 0, 40, 200, 1000 mg/kg bw/day Duration of Single Treatment: > 46 d General Toxicity - Parent: NOAEL: 1,000 mg/kg body weight General Toxicity F1: NOAEL: 1,000 mg/kg body weight Method: OECD Test Guideline 421 GLP: yes
Effects on foetal development	:	Test Type: reproductive and developmental toxicity study Species: Rat, male and female Strain: Sprague-Dawley Application Route: oral (gavage) Dose: 40, 200, 1000 mg/kg bw/day Duration of Single Treatment: > 46 d General Toxicity Maternal: NOAEL: 1,000 mg/kg body weight Teratogenicity: NOAEL: 1,000 mg/kg body weight Developmental Toxicity: NOAEL: 1,000 mg/kg body weight Method: OECD Test Guideline 421 GLP: yes
Reproductive toxicity - Assessment	:	No reproductive toxicity to be expected. No reproductive toxicity to be expected.

C.I. Pigment White 6:

Effects on fertility	:	Remarks: no data available

Effects on foetal development	:	Test Type: Pre-natal Species: Rat, female Strain: wistar Application Route: oral (gavage) Dose: 100, 300, 1000 mg/kg bw Duration of Single Treatment: 14 d Frequency of Treatment: 1 daily General Toxicity Maternal: NOAEL: 1,000 mg/kg body weight Developmental Toxicity: NOAEL: 1,000 mg/kg body weight Embryo-foetal toxicity: NOEL: 1,000 mg/kg body weight Method: OECD Test Guideline 414 GLP: yes Remarks: No significant adverse effects were reported
Reproductive toxicity - Assessment	:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments. Did not show teratogenic effects in animal experiments.

STOT - single exposure

Components:

C.I. Pigment Black 7:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Aluminium oxide:

Target Organs: Lungs
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

N,N'-Ethylenedi(stearamide):

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

C.I. Pigment Blue 15:3:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

C.I. Pigment White 6:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Components:

C.I. Pigment Black 7:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aluminium oxide:

Target Organs: Lungs
Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

N,N'-Ethylenedi(stearamide):

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

C.I. Pigment Blue 15:3:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

C.I. Pigment White 6:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

C.I. Pigment Black 7:

Species: Rat, female
NOAEL: 52 mg/kg bw/day
Application Route: oral (feed)
Exposure time: 1 a - 2 a
Number of exposures: daily
Dose: 2,05 g/kg of chow diet
Group: yes
Method: Other
GLP: No information available.
Remarks: No adverse effect has been observed in chronic toxicity tests.

Species: Rat, male
NOAEL: 0.0011 mg/l
LOAEL: 0.0071 mg/l
Application Route: Inhalation
Test atmosphere: dust/mist
Exposure time: 13 w

Number of exposures: 6 h per day; 5 d per week
Dose: 1,1 - 7,1 - 52,8 mg/m3
Group: yes
Method: Other
GLP: No information available.

Species: Mouse, male and female
Application Route: Skin contact
Exposure time: 12-18 m
Number of exposures: 3 times per week
Dose: 20% carbon black suspensions
Group: yes
Method: Other
GLP: no
Remarks: No adverse effect has been observed in chronic toxicity tests.

Aluminium oxide:

Species: Rat, male and female
NOAEL: 57 mg/kg
Application Route: Drinking water
Exposure time: 1 a
Number of exposures: continuously
Dose: 57 - 189 - 567 mg/kg
Group: yes
Method: OECD Test Guideline 426
GLP: yes
Remarks: By analogy with a product of similar composition

Species: Rat
LOAEL: 0.070 mg/l
Application Route: Inhalation
Exposure time: 6 m
Number of exposures: 6 hr/day; 5 days a week
Dose: 15-30-50-70-100 mg Al/m3
Method: OECD Test Guideline 413
GLP: No information available.

Application Route: Skin contact
Remarks: The study is not necessary from a scientific perspective.

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Species: Rat, male and female
NOAEL: 1000 mg/kg bw/day
Application Route: oral (gavage)
Exposure time: 91 d
Number of exposures: Once a day
Dose: 0, 50, 200, 1000 mg/kg
Group: yes
Method: OECD Test Guideline 408
GLP: yes

N,N'-Ethylenedi(stearamide):

Species: Rat, male and female
NOEL: >= 1000 mg/kg bw/day
Application Route: oral (gavage)
Method: OECD Test Guideline 408

C.I. Pigment Blue 15:3:

Species: Rat, male and female
NOAEL: ca. 4500 mg/kg bw/day
Application Route: oral (feed)
Exposure time: 90 d
Number of exposures: daily
Dose: 0, 0.3, 0.6, 1.25, 2.5 and 5 %
Group: yes
Method: OECD Test Guideline 408
GLP: no

C.I. Pigment White 6:

Species: Rat, male
NOEL: > 24000 mg/kg bw/day
Application Route: oral (gavage)
Exposure time: 29 d
Number of exposures: daily
Dose: 24000 mg/kg
Group: yes
Method: OECD Test Guideline 407
GLP: No information available.

Species: Rat, male and female
NOAEL: 0.01 mg/l
Application Route: Inhalation
Exposure time: 2 a
Number of exposures: 6 hours/day, 5 days/week
Dose: 0,0106 - 0,0507 - 0,250 mg/l
Group: yes
Method: Repeated Dose Toxicity (chronic Toxicity)
GLP: no

Aspiration toxicity

Components:

C.I. Pigment Black 7:

No aspiration toxicity classification

Aluminium oxide:

No aspiration toxicity classification

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

No aspiration toxicity classification

N,N'-Ethylenedi(stearamide):
no data available

C.I. Pigment Blue 15:3:
No aspiration toxicity classification

C.I. Pigment White 6:
No aspiration toxicity classification

Experience with human exposure

Product:

General Information : The possible symptoms known are those derived from the labelling (see section 2).

Further information

Components:

C.I. Pigment Blue 15:3:

Test Type: adsorption
Remarks: Not applicable

C.I. Pigment White 6:

Remarks: Lung damage possible.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish :
Remarks: no data available

Components:

C.I. Pigment Black 7:

Toxicity to fish : LC0 (Danio rerio (zebra fish)): 1,000 mg/l
End point: mortality
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: no
Method: OECD Test Guideline 203
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 5,600 mg/l
End point: Immobilization
Exposure time: 24 h

Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 202
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 10,000 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 201
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to fish (Chronic toxicity) : Remarks: not required

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: not required

Toxicity to microorganisms : EC0 (activated sludge): > 400 mg/l
End point: Bacteria toxicity (growth inhibition)
Exposure time: 3 h
Test Type: static test
Method: DIN 38412
GLP: no

Toxicity to soil dwelling organisms : Test Type: Other
Method: Other
GLP: No information available.
Remarks: This product does not have any known adverse effect on the soil organisms tested.

Aluminium oxide:

Toxicity to fish : NOEC (Salmo trutta (brown trout)): > 0.072 mg/l
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : NOEC (Daphnia magna (Water flea)): > 0.071 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (green algae)): >= 0.052 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes EC50 (Pseudokirchneriella subcapitata (green algae)): 1.05 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes Remarks: By analogy with a product of similar composition
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 56.48 mg/l Exposure time: 7 d Test Type: semi-static test Analytical monitoring: yes Method: Other GLP: yes Remarks: By analogy with a product of similar composition
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.076 mg/l End point: Reproduction rate Exposure time: 21 d Test Type: semi-static test Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes Remarks: By analogy with a product of similar composition
Toxicity to microorganisms	:	Remarks: Not applicable
Toxicity to soil dwelling organisms	:	Remarks: Not applicable
Plant toxicity	:	Remarks: Not applicable
Sediment toxicity	:	Remarks: Not applicable
Toxicity to terrestrial organisms	:	Remarks: Not applicable

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known ecotoxicological effects.
Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l
End point: mortality
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: no
Method: OECD Test Guideline 203
GLP: yes
Remarks: By analogy with a product of similar composition
The details of the toxic effect relate to the nominal concentration.

NOEC (Danio rerio (zebra fish)): 100 mg/l
End point: mortality
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: no
Method: OECD Test Guideline 203
GLP: yes
Remarks: By analogy with a product of similar composition
The details of the toxic effect relate to the nominal concentration.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 202
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

NOEC (Daphnia magna (Water flea)): 100 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 202
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 10 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes
Remarks: No toxicity at the limit of solubility
The details of the toxic effect relate to the nominal concentration.

NOEC (Desmodesmus subspicatus (green algae)): 10 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes
Remarks: No toxicity at the limit of solubility
The details of the toxic effect relate to the nominal concentration.

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): >= 10 mg/l
End point: Other
Exposure time: 28 d
Test Type: semi-static test
Analytical monitoring: no
Method: OECD Test Guideline 215
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

LOEC (Danio rerio (zebra fish)): > 10 mg/l
End point: Other
Exposure time: 28 d
Test Type: semi-static test
Analytical monitoring: no
Method: OECD Test Guideline 215
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 0.02 mg/l
End point: Reproduction rate
Exposure time: 21 d
Test Type: semi-static test
Analytical monitoring: no
Method: OECD Test Guideline 211
GLP: yes
Remarks: No toxicity at the limit of solubility

Toxicity to microorganisms : NOEC (activated sludge): > 1,000 mg/l
End point: Bacteria toxicity (respiration inhibition)
Exposure time: 3 h
Test Type: aquatic
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes

Toxicity to soil dwelling organisms : Test Type: artificial soil
LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg
Exposure time: 14 d
End point: mortality
Method: OECD Test Guideline 207
GLP: yes

Remarks: By analogy with a product of similar composition

Test Type: artificial soil
NOEC (Eisenia fetida (earthworms)): 1,000 mg/kg
Exposure time: 14 d
End point: mortality
Method: OECD Test Guideline 207
GLP: yes
Remarks: By analogy with a product of similar composition

Sediment toxicity : NOEC (Lumbriculus variegatus (Worm)): 993 mg/kg dry weight (d.w.)
Analytical monitoring: no
Solvent: yes
Duration: 28 d
Sediment: Artificial sediment
Basis for effect: mortality
Method: OECD 225
GLP: yes

N,N'-Ethylenedi(stearamide):

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): 0.027 mg/l
End point: mortality
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.0022 mg/l
Exposure time: 48 h
Test Type: semi-static test
Method: OECD Test Guideline 202
Remarks: No toxicity at the limit of solubility

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (algae)): 0.053 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: No toxicity at the limit of solubility

Toxicity to fish (Chronic toxicity) : Remarks: no data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50 (Daphnia magna (Water flea)): 0.0056 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: No toxicity at the limit of solubility

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209

Toxicity to soil dwelling organisms : NOEC (Eisenia fetida (earthworms)): >= 1,000 mg/kg
Exposure time: 56 d

Method: OECD Test Guideline 222

Sediment toxicity : NOEC: >= 1000 mg/kg dry weight (d.w.)
Test Type: static test
Sediment: Artificial sediment
Exposure duration: 28 d
Method: OECD Test Guideline 218

C.I. Pigment Blue 15:3:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 203
GLP: no
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 201
GLP: yes
Remarks: By analogy with a product of similar composition
The details of the toxic effect relate to the nominal concentration.

Toxicity to fish (Chronic toxicity) : Remarks: not required

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 1 mg/l
End point: Reproduction rate
Exposure time: 21 d
Test Type: semi-static test
Analytical monitoring: no
Method: OECD Test Guideline 211
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to microorganisms : EC50 (activated sludge): > 10,000 mg/l
End point: Bacteria toxicity (respiration inhibition)
Exposure time: 3 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to soil dwelling organisms	:	Test Type: artificial soil LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg Exposure time: 14 d End point: mortality Method: OECD Test Guideline 207 GLP: yes Test Type: artificial soil NOEC (Eisenia fetida (earthworms)): >= 1,000 mg/kg Exposure time: 14 d End point: mortality Method: OECD Test Guideline 207 GLP: yes
Sediment toxicity	:	NOEC (Lumbriculus variegatus (Worm)): 1000 mg/kg dry weight (d.w.) Analytical monitoring: no Sediment: artificial soil Exposure duration: 28 d Basis for effect: mortality Method: OECD 225 GLP: yes

C.I. Pigment White 6:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: no Method: EPA GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration. LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: no Method: OECD Test Guideline 203 GLP: No information available. Remarks: The details of the toxic effect relate to the nominal concentration. LC50 (Cyprinodon variegatus (sheepshead minnow)): > 10,000 mg/l Exposure time: 96 h Test Type: semi-static test Analytical monitoring: no data available Method: OECD Test Guideline 203 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to daphnia and other	:	LC50 (Daphnia magna (Water flea)): > 100 mg/l

aquatic invertebrates		Exposure time: 48 h Test Type: static test Analytical monitoring: no data available Method: OECD Test Guideline 202 GLP: no data available Remarks: The details of the toxic effect relate to the nominal concentration. LC50 (Acartia tonsa): > 10,000 mg/l Exposure time: 48 h Analytical monitoring: no data available Method: ISO 14669 and PARCOM method GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (microalgae)): 61 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: no Method: EPA GLP: No information available. Remarks: The details of the toxic effect relate to the nominal concentration. EC50 (Skeletonema costatum (marine diatom)): > 10,000 mg/l End point: Growth rate Exposure time: 72 h Analytical monitoring: no data available Method: ISO 10253 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration.
Toxicity to fish (Chronic toxicity)	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 7.31 mg/l Exposure time: 28 d Test Type: static test Analytical monitoring: yes Method: Other GLP: No information available. Remarks: By analogy with a product of similar composition
Toxicity to microorganisms	:	EC50 (activated sludge of a predominantly domestic sewage): > 1,000 mg/l End point: Bacteria toxicity (respiration inhibition) Exposure time: 3 h Test Type: aquatic Method: OECD Test Guideline 209 GLP: yes Remarks: The details of the toxic effect relate to the nominal concentration. NOEC (activated sludge of a predominantly domestic

sewage): >= 1,000 mg/l
End point: Bacteria toxicity (respiration inhibition)
Exposure time: 3 h
Test Type: aquatic
Method: OECD Test Guideline 209
GLP: yes
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to soil dwelling organisms : Test Type: artificial soil
NOEC (Folsomia candida): 0,1 ->= 10 %
Exposure time: 28 d
End point: mortality
Method: ISO 11267
GLP: no
Remarks: By analogy with a product of similar composition
This product does not have any known adverse effect on the soil organisms tested.

Plant toxicity : NOEC: >= 10 %
Exposure time: 20 h
End point: Growth
Species: Lactuca sativa (lettuce)
Analytical monitoring: yes
Method: Other
GLP: no
Remarks: By analogy with a product of similar composition
No effect on the growth was observed.

Sediment toxicity : NOEC (Hyalella azteca (Scud)): >= 100000 %
Analytical monitoring: no
Sediment: artificial soil
Exposure duration: 28 d
Nominal / Measured: nominal
Basis for effect: mortality
Method: Other
GLP: no
Remarks: By analogy with a product of similar composition

NOEC: >= 14989 mg/kg dry weight (d.w.)
Analytical monitoring: no data available
Sediment: Natural sediment
Exposure duration: 10 d
Nominal / Measured: nominal
Basis for effect: mortality
Method: Other
GLP: yes

Ecotoxicology Assessment

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Persistence and degradability

Components:

C.I. Pigment Black 7:

Biodegradability : Remarks: Not applicable

Aluminium oxide:

Biodegradability : Remarks: Not applicable

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 40 mg/l
Biochemical Oxygen Demand (BOD)
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: yes

Physico-chemical removability : Remarks: Not readily biodegradable.

N,N'-Ethylenedi(stearamide):

Biodegradability : aerobic
Inoculum: activated sludge
Carbon dioxide (CO2)
Result: Not readily biodegradable.
Biodegradation: 5.5 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

C.I. Pigment Blue 15:3:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 107 mg/l
Biochemical Oxygen Demand (BOD)
Result: Not biodegradable
Biodegradation: < 1 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: no

Physico-chemical removability : Remarks: Not readily biodegradable.

Stability in water : Remarks: Not applicable

Photodegradation : Test Type: air
Sensitiser: OH
Concentration: 50,000 1/cm3

Rate constant: 8.525E-11 cm3/s
Method: other (calculated)
GLP: no

C.I. Pigment White 6:

Biodegradability : Remarks: Not applicable for inorganic compound.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: not tested.

Components:

C.I. Pigment Black 7:

Bioaccumulation : Remarks: Not applicable

Aluminium oxide:

Bioaccumulation : Remarks: Not applicable

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Bioaccumulation : Remarks: Low potential for bioaccumulation (log Pow < 3).

Partition coefficient: n-octanol/water : log Pow: 2.2 (24 °C)
pH: 7
Method: Other
GLP: no data available
Remarks: Calculated on the basis of measured solubilities in water at pH 7 and in n-octanol.

N,N'-Ethylenedi(stearamide):

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : Remarks: Not applicable

C.I. Pigment Blue 15:3:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

C.I. Pigment White 6:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Bioconcentration factor (BCF): 20 - 200
Exposure time: 14 d
Concentration: 0.1 - 1 mg/l
Method: Other
GLP: No information available.
Remarks: Does not accumulate in organisms.

Partition coefficient: n- : Remarks: inorganic

octanol/water

Mobility in soil

Product:

Distribution among environmental compartments : Remarks: not tested.

Components:

C.I. Pigment Black 7:

Distribution among environmental compartments : Adsorption/Soil
Medium: water - soil
Remarks: Not applicable

Aluminium oxide:

Distribution among environmental compartments : Remarks: Not applicable

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Distribution among environmental compartments : adsorption
Medium: Soil
Remarks: Not expected to adsorb on soil.

N,N'-Ethylenedi(stearamide):

Distribution among environmental compartments : log Koc: 8.6 - 8.91
Method: calculated

C.I. Pigment Blue 15:3:

Distribution among environmental compartments : adsorption
Medium: Soil
Remarks: Not expected to adsorb on soil.

C.I. Pigment White 6:

Mobility : Remarks: Adsorption to solid soil phase is possible.

Distribution among environmental compartments : Adsorption/Soil
Medium: water - soil
log Koc: 4.61
Method: Other

Other adverse effects

Product:

Results of PBT and vPvB assessment : Remarks: No information is available as no chemical safety report (CSR) is required.

Additional ecological information : Do not allow to enter ground water, waterways or waste water.

Components:

C.I. Pigment Black 7:

Environmental fate and pathways	:	not available
Results of PBT and vPvB assessment	:	The substance is not identified as a PBT or as a vPvB substance.
Additional ecological information	:	Do not allow to enter ground water, waterways or waste water.

Aluminium oxide:

Environmental fate and pathways	:	not available
Results of PBT and vPvB assessment	:	Remarks: Not applicable
Additional ecological information	:	Do not allow to enter ground water, waterways or waste water.

5,12-dihydro-2,9-dimethylquino[2,3-b]acridine-7,14-dione:

Environmental fate and pathways	:	not available
Results of PBT and vPvB assessment	:	The substance is not identified as a PBT or as a vPvB substance.
Additional ecological information	:	The product should not be allowed to enter drains, water courses or the soil.

N,N'-Ethylenedi(stearamide):

Results of PBT and vPvB assessment	:	The substance is not identified as a PBT or as a vPvB substance.

C.I. Pigment Blue 15:3:

Environmental fate and pathways	:	not available
Results of PBT and vPvB assessment	:	The substance is not identified as a PBT or as a vPvB substance.
Additional ecological information	:	The product should not be allowed to enter drains, water courses or the soil.

C.I. Pigment White 6:

Environmental fate and pathways	:	not available

Results of PBT and vPvB assessment	:	This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
Additional ecological information	:	Do not allow to enter ground water, waterways or waste water.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of this product in accordance with all applicable local, state and federal regulations.
Contaminated packaging	:	Regulations concerning reuse or disposal of used packaging materials must be observed.

SECTION 14. TRANSPORT INFORMATION

TDG	not restricted
IATA	not restricted
IMDG	not restricted

SECTION 15. REGULATORY INFORMATION

The components of this product are reported in the following inventories:

DSL	:	All components of this product are on the Canadian DSL

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
ACGIH / TWA	:	8-hour, time-weighted average
CA AB OEL / TWA	:	8-hour Occupational exposure limit

CA BC OEL / TWA	:	8-hour time weighted average
CA QC OEL / TWAEV	:	Time-weighted average exposure value
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek

AICS - Australian Inventory of Chemical Substances; AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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