HIGH SOLIDS ENAMEL PAINT, Gloss School Bus Yellow, 453 g

Version	Revision Date:	SDS Number:	Date of last issue: 06/08/2022
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SECTION 1. IDENTIFICATION

Product name	:	HIGH SOLIDS ENAMEL PAINT, Gloss School Bus Yellow, 453 g
Product code	:	892.150017
Other means of identification	:	No data available

Manufacturer or supplier's details

Company name of supplier	:	Würth Canada Limited
Address	:	345 Hanlon Creek Blvd GUELPH, ON N1C 0A1
Telephone	:	+1 (905) 564 6225
Telefax	:	+1 (905) 564 3671
Emergency telephone	:	Emergencies involving a spill, fire, explosion or exposure: CHEMTREC (24/7): 1-800-424-9300 Transport related emergencies: CANUTEC (24/7): 1-613-996-6666 or * 666 (cell) Urgences impliquant un déversement, incendie, explosion ou exposition: CHEMTREC (24/7): 1-800-424-9300 Urgences liées au transport: CANUTEC (24/7): 1-613-996-6666 ou * 666 (cellulaire)
E-mail address	:	prodsafe@wurth.ca

Recommended use of the chemical and restrictions on use

Recommended use	:	Paint
Restrictions on use	:	Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Flammable aerosols	:	Category 1
Gases under pressure	:	Dissolved gas
Eye irritation	:	Category 2A
Specific target organ toxicity	:	Category 3

- single exposure

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements :
H222 Extremely flammable aerosol.
H280 Contains gas under pressure; may explode if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary Statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P261 Avoid breathing spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear eye protection and face protection.

Response:

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical attention.

Storage:

P405 Store locked up.
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C (122 °F).

Disposal:

P501 Dispose of contents and container to an approved waste disposal plant.

Other hazards

Repeated exposure may cause skin dryness or cracking.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Acetone	2-Propanone	67-64-1	>= 10 - < 30 *
Propane	Dimethylmethane	74-98-6	>= 10 - < 30 *
Barium sulfate	Sulfuric acid, barium salt	7727-43-7	>= 5 - < 10 *
Butane	Butyl hydride	106-97-8	>= 5 - < 10 *
Isobutyl acetate	Acetic acid, 2-methylpropyl ester	110-19-0	>= 5 - < 10 *
2-(Propyloxy)ethanol	Ethanol, 2-propoxy-	2807-30-9	>= 5 - < 10 *
n-Butyl acetate	Acetic acid, butyl ester	123-86-4	>= 1 - < 5 *
2-Methoxy-1-methylethyl acetate	2-Propanol, 1-methoxy-, 2-acetate	108-65-6	>= 1 - < 5 *
Pentan-2-one	Methyl propyl ketone	107-87-9	>= 1 - < 5 *
Titanium dioxide	Titanic anhydride	13463-67-7	>= 1 - < 5 *
Isobutyl methyl ketone	4-Methylpentan-2-one	108-10-1	>= 0.1 - < 1 *
Zirconium octoate	Hexanoic acid, 2-ethyl-, zirconium salt	22464-99-9	>= 0.1 - < 1 *

* Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : In case of contact, immediately flush skin with plenty of water.
Get medical attention if symptoms occur.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed	:	Causes serious eye irritation. May cause drowsiness or dizziness. Prolonged or repeated contact may dry skin and cause irritation.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
Notes to physician	:	Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Flash back possible over considerable distance. Vapors may form explosive mixtures with air. Exposure to combustion products may be a hazard to health. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
Hazardous combustion products	:	Carbon oxides Metal oxides Sulfur oxides
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g., by containment or oil barriers).

Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapors/mists with a water spray jet.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.
Avoid breathing spray.
Do not swallow.
Do not get in eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.
Do not spray on an open flame or other ignition source.

Conditions for safe storage : Store locked up.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Do not pierce or burn, even after use.
Keep cool. Protect from sunlight.

Materials to avoid : Do not store with the following product types:

Self-reactive substances and mixtures
Organic peroxides
Oxidizing agents
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures which in contact with water emit flammable gases
Explosives
Gases

Recommended storage temperature : < 40 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Acetone	67-64-1	TWA	500 ppm 1,200 mg/m³	CA AB OEL
		STEL	750 ppm 1,800 mg/m³	CA AB OEL
		TWA	250 ppm	CA BC OEL
		STEL	500 ppm	CA BC OEL
		TWAEV	500 ppm 1,190 mg/m³	CA QC OEL
		STEV	1,000 ppm 2,380 mg/m³	CA QC OEL
		TWA	250 ppm	ACGIH
		STEL	500 ppm	ACGIH
Propane	74-98-6	TWA	1,000 ppm	CA AB OEL
		TWAEV	1,000 ppm 1,800 mg/m³	CA QC OEL
Barium sulfate	7727-43-7	TWA	10 mg/m³	CA AB OEL
		TWA (Inhalable)	5 mg/m³	CA BC OEL
		TWAEV (inhalable dust)	5 mg/m³	CA QC OEL
		TWA (Inhalable particulate matter)	5 mg/m³	ACGIH
Butane	106-97-8	TWA	1,000 ppm	CA AB OEL
		TWAEV	800 ppm 1,900 mg/m³	CA QC OEL
		TWA	1,000 ppm	CA BC OEL
		STEL	1,000 ppm	ACGIH
Isobutyl acetate	110-19-0	TWA	150 ppm 713 mg/m³	CA AB OEL

		TWAEV	50 ppm	CA QC OEL
		STEV	150 ppm	CA QC OEL
		TWA	50 ppm	CA BC OEL
		STEL	150 ppm	CA BC OEL
		TWA	50 ppm	ACGIH
		STEL	150 ppm	ACGIH
2-(Propyloxy)ethanol	2807-30-9	TWA	25 ppm 110 mg/m³	CA ON OEL
n-Butyl acetate	123-86-4	STEL	200 ppm 950 mg/m³	CA AB OEL
		TWA	150 ppm 713 mg/m³	CA AB OEL
		TWAEV	50 ppm	CA QC OEL
		STEV	150 ppm	CA QC OEL
		TWA	50 ppm	CA BC OEL
		STEL	150 ppm	CA BC OEL
		TWA	50 ppm	ACGIH
		STEL	150 ppm	ACGIH
2-Methoxy-1-methylethyl acetate	108-65-6	TWA	50 ppm	CA BC OEL
		STEL	75 ppm	CA BC OEL
		TWA	50 ppm 270 mg/m³	CA ON OEL
Pentan-2-one	107-87-9	TWA	200 ppm 705 mg/m³	CA AB OEL
		STEL	250 ppm 881 mg/m³	CA AB OEL
		TWA	150 ppm	CA BC OEL
		STEL	250 ppm	CA BC OEL
		TWAEV	150 ppm 530 mg/m³	CA QC OEL
		STEL	150 ppm	ACGIH
Titanium dioxide	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
		TWA (Respirable particulate matter)	2.5 mg/m³ (Titanium dioxide)	ACGIH
		TWA (Respirable particulate matter)	0.2 mg/m³ (Titanium dioxide)	ACGIH
Isobutyl methyl ketone	108-10-1	TWA	50 ppm 205 mg/m³	CA AB OEL
		STEL	75 ppm 307 mg/m³	CA AB OEL
		TWA	20 ppm	CA BC OEL
		STEL	75 ppm	CA BC OEL

		TWAEV	20 ppm	CA QC OEL
		STEV	75 ppm	CA QC OEL
		TWA	20 ppm	ACGIH
		STEL	75 ppm	ACGIH
Zirconium octoate	22464-99-9	TWA	5 mg/m³ (Zirconium)	CA AB OEL
		STEL	10 mg/m³ (Zirconium)	CA AB OEL
		TWAEV	5 mg/m³ (Zirconium)	CA QC OEL
		STEV	10 mg/m³ (Zirconium)	CA QC OEL
		TWA	5 mg/m³ (Zirconium)	CA BC OEL
		STEL	10 mg/m³ (Zirconium)	CA BC OEL
		TWA	5 mg/m³ (Zirconium)	ACGIH
		STEL	10 mg/m³ (Zirconium)	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam-pling time	Permissible concentra-tion	Basis
Acetone	67-64-1	Acetone	Urine	End of shift (As soon as possible after exposure ceases)	25 mg/l	ACGIH BEI
Isobutyl methyl ketone	108-10-1	methyl isobutyl ketone	Urine	End of shift (As soon as possible after exposure ceases)	1 mg/l	ACGIH BEI

Engineering measures : Minimize workplace exposure concentrations.
If sufficient ventilation is unavailable, use with local exhaust ventilation.
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type	:	Self-contained breathing apparatus
Hand protection		
Material	:	Nitrile rubber
Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday. Breakthrough time is not determined for the product. Change gloves often!
Eye protection	:	Wear the following personal protective equipment: Safety goggles
Skin and body protection	:	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment: If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
Hygiene measures	:	If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	aerosol
Propellant	:	Propane, Butane
Color	:	yellow
Odor	:	aromatic
Odor Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available

Initial boiling point and boiling range	:	-44 °C
Flash point	:	-19 °C Flash point is only valid for liquid portion in the aerosol can.
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Extremely flammable aerosol.
Upper explosion limit / Upper flammability limit	:	10.9 %(V)
Lower explosion limit / Lower flammability limit	:	1.7 %(V)
Vapor pressure	:	2,750 hPa
Relative vapor density	:	Not applicable
Relative density	:	0.77 - 0.85
Solubility(ies) Water solubility	: :	 No data available
Partition coefficient: n-octanol/water	:	Not applicable
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity Viscosity, kinematic	: :	 Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Extremely flammable aerosol. Vapors may form explosive mixture with air. If the temperature rises there is danger of the vessels bursting

due to the high vapor pressure.
Can react with strong oxidizing agents.

Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: > 20 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method

Components:

Acetone:

Acute oral toxicity	:	LD50 (Rat): 5,800 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 76 mg/l Exposure time: 4 h Test atmosphere: vapor
Acute dermal toxicity	:	LD50 (Rabbit): 7,426 mg/kg

Propane:

Acute inhalation toxicity	:	LC50 (Rat): > 800000 ppm Exposure time: 15 min Test atmosphere: gas

Barium sulfate:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg

Butane:

Acute inhalation toxicity	:	LC50 (Rat): 658 mg/l Exposure time: 4 h Test atmosphere: vapor

Isobutyl acetate:

Acute oral toxicity	:	LD50 (Rat): 13,413 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 21.1 mg/l Exposure time: 4 h Test atmosphere: vapor Method: OECD Test Guideline 403 LC50 (Rat): 21.2 mg/l Exposure time: 4 h Test atmosphere: vapor Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rabbit): > 17,400 mg/kg

2-(Propyloxy)ethanol:

Acute oral toxicity	:	LD50 (Mouse): 3,089 mg/kg
Acute dermal toxicity	:	LD50 (Rabbit): 1,337 mg/kg

n-Butyl acetate:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 21.1 mg/l Exposure time: 4 h Test atmosphere: vapor Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg

2-Methoxy-1-methylethyl acetate:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	:	LC0 (Rat): 9.48 mg/l Exposure time: 4 h Test atmosphere: vapor
Acute dermal toxicity	:	LD50 (Rat): > 5,000 mg/kg

Pentan-2-one:

Acute oral toxicity	:	LD50 (Rat): 1,600 - 3,200 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 25.5 mg/l

Exposure time: 4 h
Test atmosphere: vapor
Method: OECD Test Guideline 436

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Remarks: Based on data from similar materials

Titanium dioxide:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 6.82 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Isobutyl methyl ketone:

Acute oral toxicity : LD50 (Rat): 2,080 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: 11 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Expert judgment

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Zirconium octoate:

Acute oral toxicity : LD50 (Rat): 2,043 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 4.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Skin corrosion/irritation

Not classified based on available information.

Components:

Acetone:

Assessment : Repeated exposure may cause skin dryness or cracking.

Barium sulfate:

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 439
Remarks : Based on data from similar materials

Result : No skin irritation

Isobutyl acetate:

Species : Rabbit
Result : No skin irritation
Remarks : Based on data from similar materials

Assessment : Repeated exposure may cause skin dryness or cracking.
Remarks : Based on national or regional regulation.

2-(Propyloxy)ethanol:

Species : Rabbit
Result : No skin irritation

n-Butyl acetate:

Species : Rabbit
Result : No skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

2-Methoxy-1-methylethyl acetate:

Species : Rabbit
Result : No skin irritation

Pentan-2-one:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
Remarks : Based on data from similar materials

Titanium dioxide:

Species : Rabbit
Result : No skin irritation

Isobutyl methyl ketone:

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

Assessment : Repeated exposure may cause skin dryness or cracking.

Zirconium octoate:

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

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Acetone:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	OECD Test Guideline 405

Barium sulfate:

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

Isobutyl acetate:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

2-(Propyloxy)ethanol:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days

n-Butyl acetate:

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

2-Methoxy-1-methylethyl acetate:

Species	:	Rabbit
Result	:	No eye irritation

Pentan-2-one:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 7 days

Titanium dioxide:

Species	:	Rabbit
Result	:	No eye irritation

Isobutyl methyl ketone:

Species	:	Human
Result	:	Irritation to eyes, reversing within 21 days

Zirconium octoate:

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

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

Acetone:

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Result	:	negative

Barium sulfate:

Test Type	:	Local lymph node assay (LLNA)
Routes of exposure	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	negative
Remarks	:	Based on data from similar materials

Isobutyl acetate:

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

2-(Propyloxy)ethanol:

Test Type	:	Buehler Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

n-Butyl acetate:

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact

Species : Guinea pig
Result : negative

2-Methoxy-1-methylethyl acetate:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative

Pentan-2-one:

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative
Remarks : Based on data from similar materials

Titanium dioxide:

Test Type : Local lymph node assay (LLNA)
Routes of exposure : Skin contact
Species : Mouse
Result : negative

Isobutyl methyl ketone:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative

Zirconium octoate:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative
Remarks : Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Components:

Acetone:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative

Propane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: inhalation (gas)
Method: OECD Test Guideline 474
Result: negative

Barium sulfate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

Butane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: inhalation (gas)
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

Isobutyl acetate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

2-(Propyloxy)ethanol:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

n-Butyl acetate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

2-Methoxy-1-methylethyl acetate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Pentan-2-one:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: Directive 67/548/EEC, Annex V, B.13/14.
Result: negative

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476
Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on data from similar materials

Titanium dioxide:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse
Result: negative

Isobutyl methyl ketone:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: equivocal

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

Zirconium octoate:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Remarks: Based on data from similar materials

Carcinogenicity

Not classified based on available information.

Product:

Carcinogenicity - Assessment	:	No data available

Components:

Acetone:

Species	:	Mouse
Application Route	:	Skin contact
Exposure time	:	424 days
Result	:	negative

Barium sulfate:

Species	:	Rat
Application Route	:	Ingestion
Exposure time	:	2 Years
Result	:	negative
Remarks	:	Based on data from similar materials

2-Methoxy-1-methylethyl acetate:

Species	:	Rat
Application Route	:	inhalation (vapor)
Exposure time	:	2 Years
Result	:	negative
Remarks	:	Based on data from similar materials

Titanium dioxide:

Species	:	Rat
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	2 Years
Method	:	OECD Test Guideline 453
Result	:	positive
Remarks	:	The mechanism or mode of action may not be relevant in humans.
Carcinogenicity - Assessment	:	Limited evidence of carcinogenicity in inhalation studies with animals.

Isobutyl methyl ketone:

Species	:	Rat
Application Route	:	inhalation (vapor)
Exposure time	:	2 Years
Method	:	OECD Test Guideline 451
Result	:	positive

Species	:	Mouse
Application Route	:	inhalation (vapor)
Exposure time	:	2 Years
Method	:	OECD Test Guideline 451
Result	:	positive

Carcinogenicity - Assessment	:	Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Not classified based on available information.

Product:

Reproductive toxicity - Assessment	:	No data available

Components:

Acetone:

Effects on fertility	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rat Application Route: inhalation (vapor) Result: negative

Propane:

Effects on fertility	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: inhalation (gas) Method: OECD Test Guideline 422 Result: negative
Effects on fetal development	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: inhalation (gas) Method: OECD Test Guideline 422 Result: negative

Barium sulfate:

Effects on fertility	:	Test Type: Fertility/early embryonic development Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials

Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rat Application Route: Ingestion Method: OECD Test Guideline 414 Result: negative Remarks: Based on data from similar materials

Butane:

Effects on fertility	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: inhalation (gas) Method: OECD Test Guideline 422 Result: negative
Effects on fetal development	:	Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Application Route: inhalation (gas) Method: OECD Test Guideline 422 Result: negative

Isobutyl acetate:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapor) Method: OPPTS 870.3800 Result: negative Remarks: Based on data from similar materials
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rat Application Route: Inhalation Result: negative Remarks: Based on data from similar materials

2-(Propyloxy)ethanol:

Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rabbit Application Route: inhalation (vapor) Result: negative

n-Butyl acetate:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapor) Method: OECD Test Guideline 416 Result: negative
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rat Application Route: inhalation (vapor)

Result: negative

2-Methoxy-1-methylethyl acetate:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapor) Method: OECD Test Guideline 416 Result: negative Remarks: Based on data from similar materials
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rat Application Route: inhalation (vapor) Result: negative

Pentan-2-one:

Effects on fertility	:	Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: inhalation (vapor) Method: OECD Test Guideline 421 Result: negative
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rat Application Route: inhalation (vapor) Method: OECD Test Guideline 414 Result: negative

Isobutyl methyl ketone:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapor) Result: negative
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rat Application Route: inhalation (vapor) Result: negative

Zirconium octoate:

Effects on fertility	:	Test Type: Fertility/early embryonic development Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rat Application Route: Ingestion Result: positive

Remarks: Based on data from similar materials

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT-single exposure

May cause drowsiness or dizziness.

Components:

Acetone:

Assessment : May cause drowsiness or dizziness.

Propane:

Assessment : May cause drowsiness or dizziness.

Butane:

Assessment : May cause drowsiness or dizziness.

Isobutyl acetate:

Assessment : May cause drowsiness or dizziness.
Remarks : Based on data from similar materials

n-Butyl acetate:

Assessment : May cause drowsiness or dizziness.

2-Methoxy-1-methylethyl acetate:

Assessment : May cause drowsiness or dizziness.

Isobutyl methyl ketone:

Assessment : May cause drowsiness or dizziness.

STOT-repeated exposure

Not classified based on available information.

Components:

Barium sulfate:

Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Repeated dose toxicity

Components:

Acetone:

Species : Rat
NOAEL : 900 mg/kg

LOAEL	:	1,700 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

Species	:	Rat
NOAEL	:	45 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	8 Weeks

Propane:

Species	:	Rat
NOAEL	:	7.214 mg/l
Application Route	:	inhalation (gas)
Exposure time	:	6 Weeks
Method	:	OECD Test Guideline 422

Barium sulfate:

Species	:	Rat
NOAEL	:	61.1 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days
Remarks	:	Based on data from similar materials

Butane:

Species	:	Rat
NOAEL	:	9000 ppm
Application Route	:	inhalation (gas)
Exposure time	:	6 Weeks
Method	:	OECD Test Guideline 422

Isobutyl acetate:

Species	:	Rat
NOAEL	:	> 100 mg/kg
Application Route	:	Ingestion
Exposure time	:	92 Days
Remarks	:	Based on data from similar materials

Species	:	Rat
NOAEL	:	> 2.4 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	13 Weeks
Remarks	:	Based on data from similar materials

2-(Propyloxy)ethanol:

Species	:	Rat
LOAEL	:	195 mg/kg
Application Route	:	Ingestion
Exposure time	:	6 Weeks

n-Butyl acetate:

Species	:	Rat
NOAEL	:	2.4 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	90 Days

2-Methoxy-1-methylethyl acetate:

Species	:	Rat
NOAEL	:	> 1,000 mg/kg
Application Route	:	Ingestion
Exposure time	:	41 - 45 Days
Method	:	OECD Test Guideline 422

Species	:	Mouse
NOAEL	:	1.62 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	2 y
Remarks	:	Based on data from similar materials

Species	:	Rabbit
NOAEL	:	> 1,838 mg/kg
Application Route	:	Skin contact
Exposure time	:	90 Days
Remarks	:	Based on data from similar materials

Pentan-2-one:

Species	:	Rat
NOAEL	:	5.28 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	13 Weeks
Method	:	OECD Test Guideline 413

Titanium dioxide:

Species	:	Rat
NOAEL	:	24,000 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 Days

Species	:	Rat
NOAEL	:	10 mg/m³
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	2 y

Isobutyl methyl ketone:

Species	:	Rat
NOAEL	:	250 mg/kg
LOAEL	:	1,000 mg/kg
Application Route	:	Ingestion
Exposure time	:	13 Weeks

Species	:	Rat
NOAEL	:	4.106 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	14 Weeks

Zirconium octoate:

Species	:	Rat
NOAEL	:	300 mg/kg
Application Route	:	Ingestion
Exposure time	:	91 - 93 Days
Remarks	:	Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

Components:

Acetone:

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

Pentan-2-one:

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

Isobutyl methyl ketone:

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Acetone:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 5,540 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia pulex (Water flea)): 8,800 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (green algae)): 7,000 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): >= 79 mg/l Exposure time: 21 d Method: OECD Test Guideline 211

Toxicity to microorganisms	:	EC50: 61,150 mg/l Exposure time: 30 min Method: ISO 8192

Barium sulfate:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10 - 100 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to fish (Chronic toxicity)	:	NOEC (Danio rerio (zebra fish)): > 1 mg/l Exposure time: 33 d Method: OECD Test Guideline 210 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): > 1 mg/l Exposure time: 21 d Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50: > 600 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials NOEC: > 600 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials

Isobutyl acetate:

Toxicity to fish	:	LC50 (Oryzias latipes (Japanese medaka)): 16.6 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 24.6 mg/l Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): 397 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

NOELR (Pseudokirchneriella subcapitata (green algae)): 196 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 23.2 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC10 (Pseudomonas putida): 487 mg/l
Exposure time: 6 h

2-(Propyloxy)ethanol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 5,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 5,000 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): >= 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : IC50: > 1,000 mg/l
Exposure time: 16 h

n-Butyl acetate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 18 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia sp. (Water flea)): 44 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 397 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

NOEC (Pseudokirchneriella subcapitata (green algae)): 196 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 23.2 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Toxicity to microorganisms : IC50 (Tetrahymena pyriformis): 356 mg/l
Exposure time: 40 h

2-Methoxy-1-methylethyl acetate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 - 180 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): > 1,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): >= 100 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC10: > 1,000 mg/l
Exposure time: 0.5 h

Pentan-2-one:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,240 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 110 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 150 mg/l
Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 73.77 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Titanium dioxide:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Skeletonema costatum (marine diatom)): > 10,000 mg/l Exposure time: 72 h
Toxicity to microorganisms	:	EC50: > 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Isobutyl methyl ketone:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 179 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 200 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 30 mg/l Exposure time: 21 d

Zirconium octoate:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 180 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 0.17 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: No toxicity at the limit of solubility.
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): 49.3 mg/l Exposure time: 96 h Remarks: Based on data from similar materials EC10 (Desmodesmus subspicatus (green algae)): 32 mg/l Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 25 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (Pseudomonas putida): 112.1 mg/l
Exposure time: 17 h
Method: DIN 38 412 Part 8
Remarks: Based on data from similar materials

Persistence and degradability

Components:

Acetone:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 91 %
Exposure time: 28 d

Propane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 385.5 h
Remarks: Based on data from similar materials

Butane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 385.5 h
Remarks: Based on data from similar materials

Isobutyl acetate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 81 %
Exposure time: 20 d

2-(Propyloxy)ethanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 20 d

n-Butyl acetate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 83 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

2-Methoxy-1-methylethyl acetate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Pentan-2-one:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 70 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Isobutyl methyl ketone:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 83 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Zirconium octoate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 99 %
Exposure time: 28 d
Method: OECD Test Guideline 301E
Remarks: Based on data from similar materials

Bioaccumulative potential

Components:

Acetone:

Partition coefficient: n-octanol/water : log Pow: -0.27 - -0.23

Barium sulfate:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): < 500

Partition coefficient: n-octanol/water : log Pow: -1.03
Remarks: Calculation

Butane:

Partition coefficient: n-octanol/water : log Pow: 2.31

Isobutyl acetate:

Partition coefficient: n-octanol/water : log Pow: 2.3

2-(Propyloxy)ethanol:

Partition coefficient: n-octanol/water : log Pow: 0.673

n-Butyl acetate:

Partition coefficient: n-octanol/water : log Pow: 2.3

2-Methoxy-1-methylethyl acetate:

Partition coefficient: n-octanol/water : log Pow: 1.2

Pentan-2-one:

Partition coefficient: n-octanol/water : log Pow: 0.857

Isobutyl methyl ketone:

Partition coefficient: n-octanol/water : log Pow: 1.9

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Empty containers retain residue and can be dangerous.
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.
If not otherwise specified: Dispose of as unused product.
Please ensure aerosol cans are sprayed completely empty (including propellant)

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 1950
Proper shipping name : AEROSOLS

Class	:	2.1
Packing group	:	Not assigned by regulation
Labels	:	2.1

IATA-DGR

UN/ID No.	:	UN 1950
Proper shipping name	:	Aerosols, flammable
Class	:	2.1
Packing group	:	Not assigned by regulation
Labels	:	Flammable Gas
Packing instruction (cargo aircraft)	:	203
Packing instruction (passenger aircraft)	:	203

IMDG-Code

UN number	:	UN 1950
Proper shipping name	:	AEROSOLS
Class	:	2.1
Packing group	:	Not assigned by regulation
Labels	:	2.1
EmS Code	:	F-D, S-U
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

TDG

UN number	:	UN 1950
Proper shipping name	:	AEROSOLS
Class	:	2.1
Packing group	:	Not assigned by regulation
Labels	:	2.1
ERG Code	:	126
Marine pollutant	:	no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

Volatile organic compounds (VOC) content

CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999 - Guidelines for VOC in Consumer Products
VOC content: 48 % / 512.9 g/l

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

DSL : All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the

Canadian Domestic Substances List (DSL).

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA ON OEL	:	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / STEL	:	15-minute occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA BC OEL / STEL	:	short-term exposure limit
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA QC OEL / TWAEV	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value

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 - Transporta-

tion of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; 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

Sources of key data used to compile the Material Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
Revision Date	:	10/07/2022
Date format	:	mm/dd/yyyy

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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