SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2020/878

Milk Paint

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Milk Paint

Synonyms : Fusion - Milk Paint - Hotel Robe; HH – Milk Paint – Acadia; HH – Milk Paint – Algonquin; HH – Milk Paint – Combed Wool; HH – Milk Paint – Grey Silk; HH – Milk Paint – Gustavian White; HH – Milk Paint – Hampton; HH – Milk Paint – Homestead Blue; HH – Milk Paint – Kurbits Indigo; HH – Milk Paint – Laurentien; HH – Milk Paint – Limestone; HH – Milk Paint – Matinee; HH – Milk Paint – Niagara; HH – Milk Paint – Porcelain; HH – Milk Paint – Potpourri; HH – Milk Paint – Solstice Blue; HH – Milk Paint – Stockholm Green; HH - Milk Paint - Sturbridge White; HH – Milk Paint – Swedish Yellow

Registration number REACH : Not applicable (mixture)

Product type REACH : Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1 Relevant identified uses

Paint

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

OLD RED BARN BV
Scheppersstraat 21
2200 Herentals
België
+32 465 00 86 84
info@oldredbarn.be

1.4. Emergency telephone number

24h/24h :

+32 473 23 09 91

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Carc.	category 2	H351: Suspected of causing cancer if inhaled.
Eye Dam.	category 1	H318: Causes serious eye damage.
Skin Irrit.	category 2	H315: Causes skin irritation.

2.2. Label elements


Contains: calcium dihydroxide; titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm].

Signal word Danger

H-statements

H351 Suspected of causing cancer if inhaled.
H318 Causes serious eye damage.
H315 Causes skin irritation.

P-statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P280 Wear protective gloves, protective clothing and eye protection/face protection.
P264 Wash hands thoroughly after handling.
P302 + P352 IF ON SKIN: Wash with plenty of water and soap.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P405 Store locked up.

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

2.3. Other hazards

Fine dust is explosive with air

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark	M-factors and ATE
citric acid	77-92-9 201-069-1	C<10%	Eye Irrit. 2; H319	(1)(2)	Constituent	
calcium dihydroxide	1305-62-0 215-137-3	C=10%	Eye Dam. 1; H318 Skin Irrit. 2; H315 STOT SE 3; H335	(1)(2)	Constituent	
kaolin	1332-58-7 310-194-1	C<30%		(2)	Constituent	
limestone	1317-65-3 215-279-6	C<30%		(2)	Constituent	
quartz (SiO2)	14808-60-7 238-878-4	C<2%	STOT RE 2; H373	(1)(2)	Constituent	
titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm] 01-2119489379-17	13463-67-7 236-675-5	15% <C<20%	Carc. 2; H351	(1)(2)	Constituent	
propylidynetrimethanol	77-99-6 201-074-9	0.0175% ≤C≤0.175%	Repr. 2; H361fd	(1)(2)	Constituent	

(1) For H- and EUH-statements in full: see section 16
(2) Substance with a Community workplace exposure limit

SECTION 4: First aid measures

4.1. Description of first aid measures

General:
Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.

After inhalation:
Remove victim into fresh air. In case of respiratory problems, consult a doctor/medical service.

After skin contact:
If possible, wipe up/dry remove chemical. Then rinse/shower immediately with (lukewarm) water. If irritation persists, consult a doctor/medical service.

After eye contact:
Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a doctor/medical service.

After ingestion:
Rinse mouth with water. If you feel unwell, consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

4.2.1 Acute symptoms

After inhalation:
No effects known.

After skin contact:
Tingling/irritation of the skin.

After eye contact:
Corrosion of the eye tissue.

After ingestion:
No effects known.

4.2.2 Delayed symptoms
No effects known.

4.3. Indication of any immediate medical attention and special treatment needed

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:

Small fire: Quick-acting ABC powder extinguisher, Class A foam extinguisher, Water (quick-acting extinguisher, reel).

Major fire: Water, Class A foam.

5.1.2 Unsuitable extinguishing media:

Small fire: Quick-acting BC powder extinguisher, Quick-acting CO2 extinguisher.

5.2. Special hazards arising from the substance or mixture

In case of fire: possible release of toxic/corrosive gases/vapours.

5.3. Advice for firefighters

5.3.1 Instructions:

Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

5.3.2 Special protective equipment for fire-fighters:

Gloves (EN 374). Face shield (EN 166). Protective clothing (EN 14605 or EN 13034). Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No naked flames.

6.1.1 Protective equipment for non-emergency personnel

See section 8.2

6.1.2 Protective equipment for emergency responders

Gloves (EN 374). Face shield (EN 166). Protective clothing (EN 14605 or EN 13034).

Suitable protective clothing

See section 8.2

6.2. Environmental precautions

Contain released product. Dam up the solid spill. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

Stop dust cloud by humidifying. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

See section 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling

Avoid raising dust. Keep away from naked flames/heat. Observe strict hygiene. Keep container tightly closed. Do not discharge the waste into the drain.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Meet the legal requirements. Store in a cool area. Store in a dry area. Keep container in a well-ventilated place. Keep out of direct sunlight.

7.2.2 Keep away from:

Heat sources, (strong) acids.

7.2.3 Suitable packaging material:

No data available

7.2.4 Non suitable packaging material:

No data available

7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

EU

Calcium dihydroxide	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	1 mg/m³ (2)
	Short time value (Indicative occupational exposure limit value)	4 mg/m³ (2)

Respirable crystalline silica dust	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	0.1 mg/m³ (2)

(2): Respirable fraction

Belgium

Calcium (carbonate de)	Time-weighted average exposure limit 8 h	10 mg/m³
Calcium (dihydroxyde de) (fraction alvéolaire)	Time-weighted average exposure limit 8 h	1 mg/m³
	Short time value	4 mg/m³
Kaolin (fraction alvéolaire)	Time-weighted average exposure limit 8 h	2 mg/m³
Silices cristallines : quartz (poussières alvéolaires)	Time-weighted average exposure limit 8 h	0.1 mg/m³
Titane (dioxyde de)	Time-weighted average exposure limit 8 h	10 mg/m³

The Netherlands

Calcium-dihydroxide	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.33 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	1 mg/m³
	Short time value (Public occupational exposure limit value)	1.3 ppm
	Short time value (Public occupational exposure limit value)	4 mg/m³
Respirabel kristallijn silicastof - kwarts	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.03 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.075 mg/m³

France

Calcium (carbonate de)	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	10 mg/m³
Calcium (hydroxyde de) fraction alvéolaire	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	1 mg/m³
	Short time value	4 mg/m³
Kaolin	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	10 mg/m³
Silices cristallines : cristobalite, quartz, tridymite	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	0.1 mg/m³
Titane (dioxyde de), en Ti	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	10 mg/m³

Germany

Calciumdihydroxid	Time-weighted average exposure limit 8 h (TRGS 900)	1 mg/m³
Zitronensäure	Time-weighted average exposure limit 8 h (TRGS 900)	2 mg/m³

Austria

Calciumdihydroxid	Tagesmittelwert (MAK)	1 mg/m³
	Kurzzeitwert 5(Mow) 8x (MAK)	4 mg/m³
Quarzfeinstaub(alveolengängiges kristallines Siliziumdioxid)	Tagesmittelwert (MAK)	0.05 mg/m³
Titandioxid (Alveolarstaub)	Tagesmittelwert (MAK)	5 mg/m³
	Kurzzeitwert 60(Miw) 2x (MAK)	10 mg/m³

UK

Calcium carbonate inhalable dust	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 mg/m³
Calcium carbonate respirable dust	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	4 mg/m³
Calcium hydroxide (Respirable fraction)	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	1 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	4 mg/m³
Calcium hydroxide	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	5 mg/m³
Kaolin, respirable dust	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	2 mg/m³
Limestone respirable	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	4 mg/m³
Limestone total inhalable	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 mg/m³
Marble respirable	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	4 mg/m³
Marble total inhalable	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 mg/m³
Silica, respirable crystalline (respirable fraction)	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.1 mg/m³

Titanium dioxide respirable	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	4 mg/m³
Titanium dioxide total inhalable	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 mg/m³

USA (TLV-ACGIH)

Calcium hydroxide	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	5 mg/m³
Kaolin	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	2 mg/m³ (R,E)
Silica, crystalline - α-quartz and cristobalite	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.025 mg/m³ (R)
Titanium dioxide - finescale particles	Time-weighted average exposure limit 8 h (TLV - Intended Changes)	2.5 mg/m³ (R)
Titanium dioxide - nanoscale particles	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.2 mg/m³ (R)

R,E: Respirable fraction. The value is for particulate matter containing no asbestos and < 1% crystalline silica
(R): Respirable fraction

b) National biological limit values

If limit values are applicable and available these will be listed below.

8.1.2 Sampling methods

Product name	Test	Number
Calciumdihydroxide	NIOSH	7020
Crystalline Silica	OSHA	ID 142
Quartz (silica, crystalline, by XRD)	NIOSH	7500
quartz	NIOSH	7601
quartz	NIOSH	7602
Silica, Crystalline, Respirable	NIOSH	7500
Silica, Crystalline	NIOSH	7601
Silica, Crystalline	NIOSH	7602
Silica, Quartz in Coal Dust (Silica in coal mine dust)	NIOSH	7603
TiO2	NIOSH	7302
TiO2	NIOSH	7304

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

DNEL/DMEL - Workers

calcium dihydroxide

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	1 mg/m³	
	Acute local effects inhalation	4 mg/m³	

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	1.25 mg/m³	

propylidynetrimethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	3.3 mg/m³	
	Long-term systemic effects dermal	0.94 mg/kg bw/day	

DNEL/DMEL - General population

calcium dihydroxide

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	1 mg/m³	
	Acute local effects inhalation	4 mg/m³	

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	210 µg/m³	

propylidynetrimethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	0.58 mg/m³	
	Long-term systemic effects dermal	0.34 mg/kg bw/day	
	Long-term systemic effects oral	0.34 mg/kg bw/day	

PNEC

citric acid

Compartments	Value	Remark
Fresh water	0.44 mg/l	
Marine water	0.044 mg/l	
STP	1000 mg/l	
Fresh water sediment	34.6 mg/kg sediment dw	
Marine water sediment	3.46 mg/kg sediment dw	
Soil	33.1 mg/kg soil dw	

calcium dihydroxide

Compartments	Value	Remark
Fresh water	0.49 mg/l	
Fresh water (intermittent releases)	0.49 mg/l	
Marine water	0.32 mg/l	
STP	3 mg/l	
Soil	1080 mg/kg soil dw	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Avoid raising dust. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment

Observe strict hygiene. Do not eat, drink or smoke during work.

a) Respiratory protection:

Dust production: dust mask with filter type P2.

b) Hand protection:

Protective gloves against chemicals (EN 374).

c) Eye protection:

Face shield (EN 166). In case of dust production: protective goggles (EN 166).

d) Skin protection:

Protective clothing (EN 14605 or EN 13034). In case of dust production: head/neck protection. In case of dust production: dustproof clothing (EN 13982).

8.2.3 Environmental exposure controls:

See sections 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Solid
	Powder
Odour	Stuffy odour
Odour threshold	No data available in the literature
Colour	Variable in colour, depending on the composition
Particle size	No data available in the literature
Explosion limits	No data available in the literature
Flammability	Not classified as flammable
Log Kow	Not applicable (mixture)
Dynamic viscosity	Not applicable (solid)
Kinematic viscosity	Not applicable (solid)
Melting point	No data available in the literature
Boiling point	No data available in the literature
Relative vapour density	Not applicable (solid)
Vapour pressure	Not applicable (solid)
Solubility	No data available in the literature
Relative density	No data available in the literature
Absolute density	No data available in the literature
Decomposition temperature	No data available in the literature
Auto-ignition temperature	No data available in the literature
Flash point	Not applicable (solid)
pH	8.4 ; 10 %

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Heating increases the fire hazard. Basic reaction.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reacts violently with (strong) oxidizers.

10.4. Conditions to avoid

Precautionary measures

Avoid raising dust. Keep away from naked flames/heat.

10.5. Incompatible materials

(strong) acids.

10.6. Hazardous decomposition products

No data available.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

11.1.1 Test results

Acute toxicity

Milk Paint

No (test)data on the mixture available

Judgement is based on the relevant ingredients

citric acid

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	11700 mg/kg bw		Rat (male)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Inhalation						Data waiving	

calcium dihydroxide

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 425	> 2000 mg/kg bw		Rat (female)	Experimental value	
Dermal	LD50	OECD 402	> 2500 mg/kg bw	24 h	Rabbit (male / female)	Experimental value	
Inhalation (dust)	LC50	OECD 436	> 6.04 mg/l	4 h	Rat (male / female)	Experimental value	

limestone

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		6450 mg/kg		Rat	Literature study	

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 401	> 2000 mg/kg bw		Rat (male / female)	Experimental value	
Dermal						Data waiving	
Inhalation (dust)	LC50	OECD 403	> 5.09 mg/l	4 h	Rat (male)	Experimental value	

propylidynetrimethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		14700 mg/kg bw		Rat (male)	Experimental value	
Dermal	LD50		> 10000 mg/kg bw	24 h	Rabbit	Literature study	
Inhalation (aerosol)	LC50		> 0.85 mg/l air	4 h	Rat (male)	Experimental value	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

Milk Paint

No (test)data on the mixture available

Classification is based on the relevant ingredients

citric acid

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Slightly irritating	OECD 405		1; 24; 48; 72 hours	Rabbit	Experimental value	10 % aqueous solution
Eye	Irritating	OECD 405		1; 24; 48; 72 hours	Rabbit	Experimental value	30% aqueous solution
Skin	Not irritating	OECD 404	4 h	1; 24; 48; 72 hours	Rabbit	Experimental value	

calcium dihydroxide

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage	OECD 405	1 h	1; 24; 48; 72 hours	Rabbit	Experimental value	
Skin	Irritating	OECD 404	4 h	24; 48; 72 hours	Rabbit	Experimental value	
Inhalation	Irritating; STOT SE cat.3					Literature study	

limestone

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Slightly irritating					Literature study	
Skin	Not irritating					Literature study	

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405		1; 24; 48; 72 hours	Rabbit	Experimental value	
Skin	Not irritating	Equivalent to OECD 404	4 h	48 hours	Rabbit	Experimental value	

propylidynetrimethanol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	BASF test		24; 48 hours	Rabbit	Experimental value	Single treatment without rinsing
Skin	Not irritating		24 h	7 days	Rabbit	Experimental value	

Conclusion

Causes skin irritation.
Causes serious eye damage.
Not classified as irritating to the respiratory system

Respiratory or skin sensitisation

Milk Paint

No (test)data on the mixture available
Judgement is based on the relevant ingredients

citric acid

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin						Data waiving	
Inhalation						Data waiving	

calcium dihydroxide

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 429			Mouse (female)	Experimental value	

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD 429			Mouse (female)	Experimental value	
Inhalation (dust)	Not sensitizing				Mouse (female)	Experimental value	

propylidynetrimethanol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Dermal (on the ears)	Not sensitizing	OECD 429			Mouse (female)	Experimental value	

Conclusion

Not classified as sensitizing for inhalation
Not classified as sensitizing for skin

Specific target organ toxicity

Milk Paint

No (test)data on the mixture available
Judgement is based on the relevant ingredients

citric acid

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	Subacute toxicity test	4000 mg/kg bw/day		No effect	5 day(s)	Rat (male / female)	Experimental value

calcium dihydroxide

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	OECD 422	1000 mg/kg bw/day		No effect		Rat (male / female)	Experimental value
Dermal								Data waiving
Inhalation (dust)	NOAEC	OECD 412	0.107 mg/l		No effect	2 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value

quartz (SiO2)

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Inhalation (dust)			STOT RE cat.2					Literature study

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	OECD 408	> 1000 mg/kg bw/day		No effect	90 day(s)	Rat (male / female)	Experimental value
Dermal								Data waiving
Inhalation (aerosol)	NOAEC	Subchronic toxicity test	2.1 mg/m³ air		No effect	13 weeks (6h / day, 5 days / week)	Rat (female)	Experimental value

propylidynetrimethanol

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL	Subchronic toxicity test	67 mg/kg bw/day	Liver; spleen	No effect	90 day(s)	Rat (male / female)	Experimental value
Inhalation	NOAEC	Subacute toxicity test	3.5 ppm		No effect	2 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

Milk Paint

No (test)data on the mixture available

Judgement is based on the relevant ingredients

citric acid

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)		Experimental value	
Positive without metabolic activation	Equivalent to OECD 487	Human lymphocytes		Experimental value	

calcium dihydroxide

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S. typhimurium and E. coli)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 473	Human lymphocytes		Experimental value	

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 473	Chinese hamster ovary (CHO)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)		Experimental value	

propylidynetrimethanol

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 476	Chinese hamster lung fibroblasts (V79)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 473	CHL/IU cells		Experimental value	

Mutagenicity (in vivo)

Milk Paint

No (test)data on the mixture available

Judgement is based on the relevant ingredients

citric acid

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (stomach tube))	Equivalent to OECD 475	5 days (1x / day)	Rat (male)		Experimental value

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (stomach tube))	OECD 474		Mouse (male / female)		Experimental value

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

Milk Paint

No (test)data on the mixture available

Classification is based on the relevant ingredients

citric acid

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Unknown								Data waiving

calcium dihydroxide

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Oral (drinking water)	NOAEL	Carcinogenic toxicity study	2150 mg/kg bw/day - 2280 mg/kg bw/day	104 week(s)	Rat (male / female)	No carcinogenic effect		Read-across

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation (aerosol)		Equivalent to OECD 453		105 weeks (6h / day, 5 days / week)	Rat (male)	Lung tissue affection/degeneration	Lungs	Experimental value
Inhalation (aerosol)	NOAEC	Equivalent to OECD 453	5 mg/m³ air	104 weeks (6h / day, 5 days / week)	Rat (male / female)	No carcinogenic effect	Lungs	Experimental value
Oral (diet)	NOEL	Carcinogenic toxicity study	2500 mg/kg bw/day	103 weeks (7 days / week)	Rat (male / female)	No carcinogenic effect		Experimental value

propylidynetrimethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Unknown								Data waiving

Conclusion

Suspected of causing cancer if inhaled.

Reproductive toxicity

Milk Paint

No (test)data on the mixture available

Judgement is based on the relevant ingredients

citric acid

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	Developmental toxicity study	> 295 mg/kg bw/day	10 day(s)	Rat	No effect		Experimental value
Effects on fertility (Oral (diet))	NOAEL		5 %	90 week(s)	Rat (male / female)	No effect		Experimental value

calcium dihydroxide

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	Equivalent to OECD 414	≥ 440 mg/kg bw/day	10 days (gestation, daily)	Mouse	No effect		Read-across
Maternal toxicity (Oral (stomach tube))	NOAEL	Equivalent to OECD 414	≥ 440 mg/kg bw/day	10 days (gestation, daily)	Mouse	No effect		Read-across
Effects on fertility (Oral (stomach tube))	NOEL	OECD 422	1000 mg/kg bw/day		Rat (male / female)	No effect		Experimental value

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	1000 mg/kg bw/day	2 weeks (7 days / week)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	1000 mg/kg bw/day	2 weeks (7 days / week)	Rat	No effect		Experimental value
Effects on fertility (Oral (diet))	NOAEL	OECD 443	≥ 1000 mg/kg bw/day	14 day(s)	Rat (male / female)	No effect		Experimental value

propylidynetrimethanol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOEL	OECD 414	100 mg/kg bw/day	15 days (gestation, daily)	Rat	No effect	Foetus	Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	100 mg/kg bw/day	15 days (gestation, daily)	Rat	No effect		Experimental value
Effects on fertility (Oral (drinking water))	Dose level	OECD 421	> 6000 ppm	14 day(s)	Rat (male / female)	No effect		Experimental value

Conclusion

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

Milk Paint

No (test)data on the mixture available

Chronic effects from short and long-term exposure

Milk Paint

Lung tissue affection/degeneration.

11.2. Information on other hazards

No evidence of endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

Milk Paint

No (test)data on the mixture available

Judgement of the mixture is based on the relevant ingredients

citric acid

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	Equivalent to OECD 203	440 mg/l - 760 mg/l	48 h	Leuciscus idus	Static system	Fresh water	Experimental value; Nominal concentration
Acute toxicity crustacea	LC50		1535 mg/l	24 h	Daphnia magna	Static system	Fresh water	Experimental value; Nominal concentration
Toxicity algae and other aquatic plants	NOEC		425 mg/l	8 day(s)	Scenedesmus quadricauda	Static system	Fresh water	Experimental value; Cell numbers
Long-term toxicity fish								Data waiving
Long-term toxicity aquatic crustacea								Data waiving
Toxicity aquatic micro-organisms	Toxicity threshold		> 10000 mg/l	16 h	Pseudomonas putida	Static system	Fresh water	Experimental value; Inhibition

calcium dihydroxide

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	50.6 mg/l	96 h	Oncorhynchus mykiss	Static system	Fresh water	Experimental value; Lethal
Acute toxicity crustacea	EC50	OECD 202	49.1 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Estimated value
Toxicity algae and other aquatic plants	ErC50	OECD 201	184.57 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Nominal concentration
	NOEC	OECD 201	48 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish								Data waiving
Long-term toxicity aquatic crustacea	NOEC		32 mg/l	14 day(s)	Crangon sp.	Semi-static system	Salt water	Experimental value; Growth
Toxicity aquatic micro-organisms	EC50	OECD 209	300.4 mg/l	3 h	Activated sludge	Static system	Fresh water	Experimental value; Respiration

limestone

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		> 10000 mg/l	96 h	Oncorhynchus mykiss			Literature study
Acute toxicity crustacea	EC50		> 1000 mg/l	48 h	Daphnia magna			Literature study
Toxicity algae and other aquatic plants	EC50		> 200 mg/l	72 h	Desmodesmus subspicatus			Literature study

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		> 1000 mg/l		Pisces		Fresh water	
Acute toxicity crustacea	EC50		> 1000 mg/l		Invertebrata		Fresh water	
Toxicity algae and other aquatic plants	EC50	OECD 201	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
	NOEC	OECD 201	≥ 100 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate

propylidynetrimethanol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		> 1000 mg/l	96 h	Alburnus alburnus	Static system	Brackish water	Experimental value; Nominal concentration
Acute toxicity crustacea	EC50	ASTM	13000 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	EC50		> 1000 mg/l	72 h	Pseudokirchneriella subcapitata		Fresh water	Experimental value; Biomass

Conclusion

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

12.2. Persistence and degradability

citric acid

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B	97 %; Carbon dioxide	28 day(s)	Weight of evidence

propylidynetrimethanol

Biodegradation water

Method	Value	Duration	Value determination
OECD 301E	6 %; GLP	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	9.302 h	1.5E6 /cm³	Calculated value

Conclusion

Water

Contains non readily biodegradable component(s)

12.3. Bioaccumulative potential

Milk Paint

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

citric acid

Log Kow

Method	Remark	Value	Temperature	Value determination
		-1.8 - -1.55		Experimental value

calcium dihydroxide

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

kaolin

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

limestone

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable			

quartz (SiO2)

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

propylidynetrimethanol

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	OECD 305	0.1 - 10; GLP	6 week(s)	Cyprinus carpio	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
		-0.47	26 °C	Experimental value

Conclusion

No straightforward conclusion can be drawn based upon the available numerical values

12.4. Mobility in soil

citric acid

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	1.000	Calculated value

propylidynetrimethanol

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	0.176	Calculated value

Conclusion

Contains component(s) with potential for mobility in the soil

12.5. Results of PBT and vPvB assessment

Due to insufficient data no statement can be made whether the component(s) fulfil(s) the criteria of PBT and vPvB according to Annex XIII of Regulation (EC) No 1907/2006.

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties

12.7. Other adverse effects

Milk Paint

Greenhouse gases

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

citric acid

Groundwater

Groundwater pollutant

Water ecotoxicity pH

pH shift

calcium dihydroxide

Water ecotoxicity pH

pH shift

propylidynetrimethanol

Groundwater

Groundwater pollutant

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.
Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).
08 01 19* (wastes from MFSU and removal of paint and varnish: aqueous suspensions containing paint or varnish containing organic solvents or other hazardous substances). Depending on branch of industry and production process, also other waste codes may be applicable.

13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

13.1.3 Packaging/Container

European Union

Waste material code packaging (Directive 2008/98/EC).
15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

Road (ADR), Rail (RID), Inland waterways (ADN), Sea (IMDG/IMSBC), Air (ICAO-TI/IATA-DGR)

14.1. UN number

Transport	Not subject

14.2. UN proper shipping name

14.3. Transport hazard class(es)

Hazard identification number	
Class	
Classification code	

14.4. Packing group

Packing group	
Labels	

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	
Limited quantities	

14.7. Maritime transport in bulk according to IMO instruments

Annex II of MARPOL 73/78	Not applicable

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
0 %	

Directive 2012/18/EU (Seveso III)

Not subject to registration according to Directive 2012/18/EU (Seveso III)

National legislation Belgium

Milk Paint

No data available

quartz (SiO2)

Additional classification	Silices cristallines : quartz (poussières alvéolaires); C; La mention “C” signifie que l’agent en question relève du champ d’application de l’arrêté royal du 2 décembre 1993 concernant la protection des travailleurs contre les risques liés à l’exposition à des agents cancérigènes et mutagènes et reprotoxiques au travail.
Agents cancérigènes, mutagènes et reprotoxiques (Code du bien-être au travail, Livre VI, titre 2)	silice cristalline alvéolaire; VI.2.3.; Liste non limitative de substances, mélanges et procédés visés à l’article VI.2-1, alinéa 3

National legislation The Netherlands

Milk Paint

Waterbezwaarlijkheid	A (4); Algemene Beoordelingsmethodiek (ABM)

quartz (SiO2)

SZW - Lijst van kankerverwekkende stoffen	silica (respirabel stof, kristallijn); Listed in SZW-list of carcinogenic substances

National legislation France

Milk Paint

No data available

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Catégorie cancérogène	Titane (dioxyde de), en Ti; C2

National legislation Germany

Milk Paint

Lagerklasse (TRGS510)	11: Brennbare Feststoffe, die keiner der vorgenannten LGK zuzuordnen sind
WGK	1; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017

citric acid

TA-Luft	5.2.1
TRGS900 - Risiko der Fruchtschädigung	Zitronensäure; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

calcium dihydroxide

TA-Luft	5.2.1
TRGS900 - Risiko der Fruchtschädigung	Calciumdihydroxid; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

kaolin

TA-Luft	5.2.1

limestone

TA-Luft	5.2.1

quartz (SiO2)

TA-Luft	5.2.1

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

TA-Luft	5.2.2/III

propylidynetrimethanol

TA-Luft	5.2.5/I

National legislation Austria

Milk Paint

No data available

quartz (SiO2)

Krebserzeugend	Quarzfeinstaub(alveolengängiges kristallines Siliziumdioxid); III C

National legislation United Kingdom

Milk Paint

No data available

quartz (SiO2)

Carcinogen	Silica, respirable crystalline (respirable fraction); Carc

Other relevant data

Milk Paint

No data available

kaolin

TLV - Carcinogen	Kaolin; A4

quartz (SiO2)

TLV - Carcinogen	Silica, crystalline - α-quartz and cristobalite; A2
IARC - classification	1; Silica dust, crystalline, in the form of quartz or cristobalite

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

TLV - Carcinogen	Titanium dioxide - nanoscale particles; A3
	Titanium dioxide - finescale particles; A3
IARC - classification	2B; Titanium dioxide

15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

SECTION 16: Other information

Full text of any H- and EUH-statements referred to under section 3:

H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer if inhaled.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEC/NOAEL	No Observed Adverse Effect Concentration/No Observed Adverse Effect Level
NOEC/NOEL	No Observed Effect Concentration/No Observed Effect Level
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.