SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 as amended by Regulation (EU) No. 2020/878, and
Regulation (EC) No. 1272/2008

Revision date 09-11-2026 **Revision Number** 1

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

1.1. Product identifier

Product Code CC01107447

Material number(s): CC01107447X1

Product Name CV73765639-PVC PVC 8700 004.000% COOL GR

Other means of identification

Substance/mixture Mixture

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

Recommended use For industrial use only

Uses advised against None

1.3. Details of the supplier of the safety data sheet

Supplier
Avient Luxembourg S.à.r.l.
19 Route de Bastogne, L-9638
Pommerloch, Luxembourg
Product Stewardship
+352 26 90 50 35

For further information, please contact

E-mail address SDS.MB.Europe@avient.com

Company Phone Number +352 26 90 50 35

1.4. Emergency telephone number

Emergency Telephone (Chemtrec 24h) +44 20 3885 0382

Poison control center phone number - §45 - (EC)1272/2008	
Europe	**112**
Austria	Austria Poison Information Center: +43 1 406 43 43 Emergency phone number: 112
Belgium	Belgium Emergency phone number: +32 (0) 70 245 245 Emergency phone number: 112
Bulgaria	Bulgaria Emergency phone number : Hospital for Active Medical Treatment and Emergency Medicine “N.I.Pirogov” Emergency number/ fax: +359 2 9154 233
Croatia	Croatia Emergency phone number: Poison Control Center: +385 (01) 23 48 342 Emergency phone number: 112

Cyprus	Cyprus Emergency phone number: Poison Control Center: 1401
Czech Republic	Czech Republic Toxicological Information Center (TIS), Clinic of Occupational Medicine: +420 224 919 293 or +420 224 915 402 Emergency phone number: 112
Denmark	Denmark Emergency phone number: Bispebjerg Hospital: +45 82 12 12 12 Emergency phone number: 112
Estonia	Estonia Emergency phone number: Poison Information Center: 16662 Emergency phone number: 112
Finland	Finland Emergency phone number: Poison Information Center: 0800 147 111 Emergency phone number: 112
France	France: National Poison center phone number (ORFILA) : (33) 1 45 42 59 59 24/24-7/7 emergency number : ANGERS: 02 41 48 21 21 BORDEAUX: 05 56 96 40 80 LILLE: 08 00 59 59 59 LYON: 04 72 11 69 11 MARSEILLE: 04 91 75 25 25 NANCY: 03 83 22 50 50 PARIS: 01 40 05 48 48 TOULOUSE: 05 61 77 74 47
Germany	Germany Emergency phone number: +49 30 19240 (Giftnotruf Berlin)
Greece	Greece Emergency phone number: Poison Center: +30 210 77 93 777 Emergency phone number: 112
Hungary	Hungary Emergency phone number: ETTSZ (Health Toxicological Information Service): +36 80 201 199 Emergency phone number: 112
Ireland	Ireland Emergency phone number: National Poisons Information Centre, Beaumont Hospital: +353 (0)1 809 2166 (from 8.00 to 22.00)
Italy	Italy Emergency phone number: Bambino Gesù Pediatric Hospital, Rome, Piazza Sant'Onofrio: 06 6859 3726 University Hospital Foggia, Viale Luigi Pinto: 800 183 459 A. Cardarelli Hospital, Naples, Via A. Cardarelli: 081 545 3333 Umberto I Hospital, Rome, Viale del Policlinico: 06 4997 8000 A. Gemelli Hospital, Rome, Largo Agostino Gemelli: 06 305 4343 Careggi Hospital, Medical Toxicology Unit, Florence, Largo Brambilla: 055 794 7819 National Center for Toxicological Information, Pavia, Via Salvatore Maugeri: 0382 24444 Niguarda Ca' Granda, Milan, Piazza Maggiore Hospital: 02 6610 1029 Giovanni XXII Hospital, Bergamo, Piazza OMS: 00 883 300 Verona Integrated Hospital Trust, Piazzale Aristide Stefani 1: 800 011 858 Emergency phone number: 112
Latvia	Latvia Emergency phone number: Toxicology and Sepsis Clinic, Poison and Drug Information Center: +371 67042473 Emergency phone number: 112
Lithuania	Lithuania Emergency phone number: Lithuanian Poison Control and Information Center: +370(5) 2362052 or +370 687 53378 Emergency phone number: 112

Luxembourg	Luxembourg Emergency phone number: (+352) 8002 5500 Emergency phone number: 112
Malta	Malta Accident and Emergency Department phone number: 2545 4030
Netherlands	Netherlands Emergency phone number: NVIC Poison Center: +31 (0)88 755 8000 (For professionals only in case of acute poisoning).
Norway	Norway Poison Center Emergency phone number: +47 22 59 13 00
Poland	Poland Poison Information Center (Warsaw): +48226196654 Pomeranian Center of Toxicology (Gdansk): +48586821939 Sosnowiec Poison Center: +48323682210 Emergency phone number: 112
Portugal	Portugal Emergency phone number: Antivenom Information Center (CIAV): +351 800 250 250 Emergency phone number: 112
Romania	Romania Emergency phone number: Toxicological Information Center: +40 21 599 2300 Emergency phone number: 021 112
Slovakia	Slovakia Emergency phone number: National Toxicological Information Center (NTIC): 00421 (0) 2 5477 4166 Emergency phone number: 112
Slovenia	Slovenia Emergency phone number: 112
Spain	Spain Emergency phone number + 34 91 562 04 20 (for toxic emergencies only) Emergency phone number: 112
Sweden	Sweden Emergency phone number: 010-456 6700 Emergency phone number: 112
Switzerland	Switzerland Emergency phone number: 145 Outside Switzerland: +41 44 251 51 51

SECTION 2: Hazards identification

This mixture has not been evaluated as a whole for health effects. Information provided on health effects of this product is based on the individual components. However, some vapors or contaminants may be released upon heating and the end-user (fabricator) must take the necessary precautions (mechanical ventilation, respiratory protection, etc.) to protect employees from exposure. See sections 8 and 11 for special precautions.

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin sensitization	Category 1 - (H317)
Reproductive toxicity	Category 1B - (H360)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)
Hazardous to the aquatic environment - chronic	Category 3 - (H412)

2.2. Label elements

This product is marketed in a form that encapsulates the components in a polymer matrix. To the best of our knowledge, the

product in this form does not present a significant risk to health by inhalation, ingestion, or skin contact, nor does it present a significant risk to the aquatic environment. Thus, as the substances are embedded in the polymer matrix and are not likely to migrate, labeling of the finished good is not mandatory (according to 1272/2008/EC Article 23d).

Contains Dioctyltin bis(2-ethylhexyl thioglycolate); Monooctyltin tris(2-ethylhexyl thioglycolate)



Signal word
Danger

Hazard statements
H317 - May cause an allergic skin reaction.
H360 - May damage fertility or the unborn child.
H373 - May cause damage to organs through prolonged or repeated exposure.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements
P201 - Obtain special instructions before use.
P260 - Do not breathe dust, fume, gas, mist, vapors and spray.
P280 - Wear protective gloves, protective clothing, eye protection and face protection.
P308 + P313 - IF exposed or concerned: Get medical advice and attention.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P501 - Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable.

Additional information
Restricted to professional users. This product requires tactile warnings if supplied to the general public.

2.3. Other hazards

Other hazards Causes mild skin irritation. Harmful to aquatic life.

PBT or vPvB properties The mixture does not contain any substances meeting the PBT or vPvB criteria according to Regulation (EC) No 1907/2006, Annex XIII.

Endocrine Disruptor Information The mixture does not contain substances >= 0.1% that have endocrine disrupting properties according to Regulation (EC) No 1907/2006, Article 59(1) or Regulation (EU) 2017/2100 or Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical name	Weight-%	REACH registration number	EC No. (Index No.)	Classification according to Regulation (EC) No.	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	Notes

				1272/2008 [CLP]				
Spinels, chromium copper black (CAS #: 68186-91-4)	1 - 3%	No data available	269-053-7	No data available	-	-	-	-
Dioctyltin bis(2-ethylhexyl thioglycolate) (CAS #: 15571-58-1)	1 - 3%	No data available	239-622-4 (050-027-00-7)	STOT RE 1 (H372) Skin Sens. 1 (H317) Skin Irrit. 2 (H315) Acute Tox. 4 (H332) Acute Tox. 4 (H312) Acute Tox. 4 (H302) Repr. 1B (H360D) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	-	-	-
C.I. Pigment Yellow 164 (CAS #: 68412-38-4)	0.1 - 1%	No data available	270-185-2 (051-003-00-9)	Not classified	-	-	-	-
Monooctyltin tris(2-ethylhexyl thioglycolate) (CAS #: 27107-89-7)	0.1 - 1%	No data available	248-227-6	Repr. 1B (H360) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	1	1	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	2000	2000	No data available	No data available	No data available
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	3400	No data available	No data available	No data available	No data available

This product contains one or more candidate substance(s) of very high concern (Regulation (EC) No. 1907/2006 (REACH), Article 59).

Chemical name	CAS No.	SVHC candidates
Dioctyltin bis(2-ethylhexyl thioglycolate)	15571-58-1	X

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Move victim to fresh air. Get medical attention immediately if symptoms occur.

Eye contact In case of eye contact, remove contact lens and rinse immediately with plenty of water, also

	under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice and attention.
Skin contact	Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Rinse mouth. Do NOT induce vomiting. Get medical attention if symptoms occur.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. First aider: Pay attention to self-protection.

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

Symptoms	Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.
Effects of Exposure	May cause adverse reproductive effects - such as birth defect, miscarriages, or infertility. May cause damage to organs through prolonged or repeated exposure.

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

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Dry chemical, CO2, water spray or regular foam.
Unsuitable extinguishing media	Do not use water jetstream.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by skin contact.
Hazardous combustion products	Decomposition products can include and are not limited to:, Carbon monoxide, Carbon dioxide (CO2), Nitrogen oxides (NOx), Ammonia, Fluorinated oxides, Hydrogen fluoride, Hydrogen chloride, Hydrogen sulfide, Sulfur oxides, Sulfur trioxide, Oxides of sulfur, Phosphorus oxides, Phosphine, Metal oxides

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not allow to enter into soil/subsoil. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes.

General hygiene considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.

Storage class (TRGS 510) Storage class 6.1C.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union (Directives 98/24/EC and 2004/37/EC)
Spinels, chromium copper black (68186-91-4)	TWA: 2 mg/m³;
C.I. Pigment Yellow 164 (68412-38-4)	TWA: 0.05 mg/m³; respirable fraction

Chemical name	Austria (GKV BGBl. II Nr. 330/2024)	Belgium (Royal Decree 21/01/2020)	Bulgaria (Regulation No. 13)	Croatia (Official Gazette No. 91/2018)
Spinels, chromium copper black (68186-91-4)	TWA-TMW: 1 mg/m³; inhalable fraction TWA-TMW: 0.1 mg/m³; respirable fraction,	TWA: 0.5 mg/m³;	TWA: 1.0 mg/m³; TWA: 2.0 mg/m³;	TWA-GVI: 2 mg/m³;

	smoke TWA-TMW: 2 mg/m³; STEL-KZGW: 4 mg/m³ (4 X 15 min); inhalable fraction STEL-KZGW: 0.4 mg/m³ (4 X 15 min); respirable fraction, smoke DS			
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	TWA-TMW: 0.1 mg/m³; inhalable fraction STEL-KZGW: 0.2 mg/m³ (4 X 15 min); inhalable fraction Sk	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³; Sd	TWA: 0.1 mg/m³;	TWA-GVI: 0.1 mg/m³; STEL-KGVI: 0.2 mg/m³;
C.I. Pigment Yellow 164 (68412-38-4)	TWA-TMW: 0.5 mg/m³; inhalable fraction TWA-TMW: 0.2 mg/m³; inhalable fraction STEL-KZGW: 1.5 mg/m³ (4 X 15 min); inhalable fraction STEL-KZGW: 1.6 mg/m³ (4 X 15 min); inhalable fraction	TWA: 0.5 mg/m³; TWA: 0.05 mg/m³; inhalable fraction TWA: 0.2 mg/m³;	TWA: 0.5 mg/m³; TWA: 0.05 mg/m³; respirable fraction	TWA-GVI: 0.5 mg/m³; TWA-GVI: 0.2 mg/m³; total dust, inhalable fraction TWA-GVI: 0.05 mg/m³; respirable dust; fraction that can be inhaled into the lungs
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	TWA-TMW: 0.1 mg/m³; inhalable fraction STEL-KZGW: 0.2 mg/m³ (4 X 15 min); inhalable fraction Sk	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³; Sd	TWA: 0.1 mg/m³;	TWA-GVI: 0.1 mg/m³; STEL-KGVI: 0.2 mg/m³;
Chemical name	Cyprus (Cabinet of Ministers Regulation 268/2001)	Czech Republic (Regulation 361/2007)	Denmark (BEK no. 1619 of 19/12/2024)	Estonia (Regulation No. 105)
Spinels, chromium copper black (68186-91-4)	TWA: 2 mg/m³;	TWA: 0.5 mg/m³; inhalable fraction of aerosol Ceiling: 1.5 mg/m³;	-	TWA: 2 mg/m³; TWA: 1 mg/m³; total dust TWA: 0.2 mg/m³; fine dust
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	-	TWA: 0.1 mg/m³; Ceiling: 0.2 mg/m³; pSk	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³; pSk	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³; Sk
C.I. Pigment Yellow 164 (68412-38-4)	TWA: 0.2 mg/m³; inhalable fraction TWA: 0.05 mg/m³; respirable fraction	TWA: 0.5 mg/m³; TWA: 1 mg/m³; Ceiling: 1.5 mg/m³; Ceiling: 2 mg/m³;	TWA: 0.5 mg/m³; TWA: 0.2 mg/m³; inhalable TWA: 0.05 mg/m³; respirable STEL: 1 mg/m³; STEL: 0.4 mg/m³; inhalable STEL: 0.1 mg/m³; respirable	TWA: 0.2 mg/m³; total dust TWA: 0.05 mg/m³; respirable dust
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	-	TWA: 0.1 mg/m³; Ceiling: 0.2 mg/m³; pSk	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³; pSk	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³; Sk
Chemical name	Finland (HTP-ARVOT 2025)	France (INRS ED 6443)	Germany (TRGS 900)	Germany (DFG)
Spinels, chromium copper black	TWA: 0.02 mg/m³;	TWA-VME (indicatif): 2	TWA-AGW;	-

(68186-91-4)	respirable dust TWA: 0.5 mg/m³;	mg/m³;	0.2 mg/m³ (4(II)); inhalable fraction TWA-AGW; 0.045 mg/m³ (8(II)); respirable fraction TWA-AGW; 2 mg/m³ (1(I)); inhalable fraction	
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	TWA: 0.1 mg/m³; STEL: 0.3 mg/m³; pSk	TWA-VME: 0.1 mg/m³; STEL-VLCT: 0.2 mg/m³;	TWA-AGW; 0.002 ppm (2(II)); TWA-AGW; 0.01 mg/m³ (2(II)); Sk	-
C.I. Pigment Yellow 164 (68412-38-4)	TWA: 0.5 mg/m³; TWA: 0.2 mg/m³; inhalable dust TWA: 0.02 mg/m³; respirable dust	TWA-VME: 0.5 mg/m³;	TWA-AGW; 0.2 mg/m³ (8(II)); inhalable fraction TWA-AGW; 0.02 mg/m³ (8(II)); respirable fraction	-
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	TWA: 0.1 mg/m³; STEL: 0.3 mg/m³; pSk	TWA-VME: 0.1 mg/m³; STEL-VLCT: 0.2 mg/m³;	-	-

Chemical name	Greece (Presidential Decrees 90/1999, 338/2001 and 212/2006)	Hungary (5/2020 ITM Decree)	Italy (Legislative Decree no. 81)	Italy (AIDII)
Spinels, chromium copper black (68186-91-4)	TWA: 0.5 mg/m³;	TWA-AK: 0.1 mg/m³; TWA-AK: 0.5 mg/m³; TWA-AK: 2 mg/m³; STEL-CK: 0.2 mg/m³; STEL-CK: 2 mg/m³; S	TWA: 0.5 mg/m³;	TWA: 1 mg/m³; dust and mist TWA: 0.003 mg/m³; DS RS
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³; pSk	TWA-AK: 0.02 mg/m³; pSk	-	TWA: 0.1 mg/m³; STEL (REL): 0.2 mg/m³; pSk
C.I. Pigment Yellow 164 (68412-38-4)	TWA: 0.5 mg/m³; TWA: 0.2 mg/m³; inhalable fraction TWA: 0.05 mg/m³; respirable fraction	TWA-AK: 0.5 mg/m³;	TWA: 0.05 mg/m³; respirable fraction	TWA: 0.5 mg/m³; TWA: 0.1 mg/m³; inhalable fraction
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³; pSk	TWA-AK: 0.02 mg/m³; pSk	-	TWA: 0.1 mg/m³; STEL (REL): 0.2 mg/m³; pSk

Chemical name	Ireland (CoP 2024)	Latvia (Cabinet of Ministers Regulation No. 325)	Lithuania (HN 23:2011)	Luxembourg (A-N°684)
Spinels, chromium copper black (68186-91-4)	TWA: 2 mg/m³; STEL: 6 mg/m³ (calculated);	TWA: 2 mg/m³;	TWA-IPRD: 1 mg/m³; inhalable fraction TWA-IPRD: 0.2 mg/m³; respirable fraction TWA-IPRD: 2 mg/m³;	TWA: 2 mg/m³;
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³;	-	TWA-IPRD: 0.1 mg/m³; STEL-TPRD: 0.2 mg/m³; Sk	-
C.I. Pigment Yellow 164 (68412-38-4)	TWA: 0.5 mg/m³; TWA: 0.2 mg/m³; inhalable fraction TWA: 0.05 mg/m³; respirable fraction STEL: 1.5	TWA: 0.2 mg/m³; TWA: 0.05 mg/m³;	TWA-IPRD: 0.2 mg/m³; inhalable fraction TWA-IPRD: 0.05 mg/m³; respirable fraction	TWA: 0.2 mg/m³; TWA: 0.05 mg/m³;

	mg/m³ (calculated); STEL: 0.6 mg/m³ (calculated); inhalable fraction STEL: 0.15 mg/m³ (calculated); respirable fraction			
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³;	-	TWA-IPRD: 0.1 mg/m³; STEL-TPRD: 0.2 mg/m³; Sk	-
Chemical name	Malta (Subsidiary Legislation 424.24)	Netherlands (Working Conditions Regulations)	Norway (FOR-2011-12-06-1358)	Poland (Legislative Journal 2018 item 1286)
Spinels, chromium copper black (68186-91-4)	TWA: 2 mg/m³;	TWA: 0.1 mg/m³; inhalable TWA: 0.5 mg/m³; STEL: 1 mg/m³;	TWA: 0.5 mg/m³; STEL: 1.5 mg/m³ (value calculated);	TWA-NDS: 0.2 mg/m³; TWA-NDS: 0.5 mg/m³;
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	-	-	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³ (value from the regulation); Sk	-
C.I. Pigment Yellow 164 (68412-38-4)	TWA: 0.2 mg/m³; TWA: 0.5 mg/m³;	TWA: 0.5 mg/m³; TWA: 0.2 mg/m³; inhalable TWA: 0.05 mg/m³; respirable	TWA: 0.5 mg/m³; TWA: 0.2 mg/m³; inhalable fraction TWA: 0.05 mg/m³; respirable fraction STEL: 1.5 mg/m³ (value calculated); STEL: 0.6 mg/m³ (value calculated;exceptions possible, see footnote 9); inhalable fraction STEL: 0.15 mg/m³ (value calculated;exceptions possible, see footnote 9); respirable fraction	TWA-NDS: 0.5 mg/m³; TWA-NDS: 0.2 mg/m³; inhalable fraction TWA-NDS: 0.05 mg/m³; respirable fraction TWA-NDS: 10 mg/m³; STEL-NDSCh: 30 mg/m³;
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	-	-	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³ (value from the regulation); Sk	-
Chemical name	Portugal (NP 1796:2014)	Romania (Government Decision no. 1218/2006)	Slovakia (Gov. Decree 122/2024)	Slovenia (Regulation Nos. 100/2001 and 29/2024)
Spinels, chromium copper black (68186-91-4)	TWA (VLE-MP): 0.5 mg/m³; TWA (VLE-MP): 2 mg/m³;	TWA: 0.5 mg/m³; TWA: 2 mg/m³;	TWA: 1 mg/m³; TWA: 0.2 ppm;	TWA: 2 mg/m³; inhalable fraction STEL: 2 mg/m³; inhalable fraction
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	TWA (VLE-MP): 0.1 mg/m³; STEL (VLE-CD): 0.2 mg/m³; pSk	TWA: 0.05 mg/m³; STEL: 0.15 mg/m³;	TWA: 0.1 mg/m³; Ceiling: 0.2 mg/m³; pSk	TWA: 0.01 mg/m³; TWA: 0.002 ppm; STEL: 0.004 ppm; STEL: 0.02 mg/m³; pSk
C.I. Pigment Yellow 164 (68412-38-4)	TWA (VLE-MP): 0.5 mg/m³; TWA (VLE-MP): 0.2 mg/m³; inhalable fraction TWA (VLE-MP): 0.05 mg/m³; respirable	TWA: 0.2 mg/m³; inhalable fraction TWA: 0.05 mg/m³; respirable fraction	TWA: 0.5 mg/m³; total dust TWA: 0.05 mg/m³; inhalable fraction TWA: 0.2 mg/m³; respirable fraction	TWA: 0.05 mg/m³; respirable fraction STEL: 0.4 mg/m³; respirable fraction

	fraction			
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	TWA (VLE-MP): 0.1 mg/m³; STEL (VLE-CD): 0.2 mg/m³; pSk	TWA: 0.05 mg/m³; STEL: 0.15 mg/m³;	TWA: 0.1 mg/m³; Ceiling: 0.2 mg/m³; pSk	-
Chemical name	Spain (Occupational exposure limits for chemical agents in Spain, 2025)	Sweden (AFS 2023:14)	Switzerland (MAK Values)	United Kingdom
Spinels, chromium copper black (68186-91-4)	TWA-(VLA-ED): 0.01 mg/m³; respirable fraction TWA-(VLA-ED): 2 mg/m³;	TLV-NGV: 0.01 mg/m³; respirable fraction TLV-NGV: 0.5 mg/m³; total dust	TWA-MAK: 0.1 mg/m³; inhalable dust TWA-MAK: 0.5 mg/m³; inhalable dust STEL-KZGW: 0.2 mg/m³; inhalable dust S	TWA: 1 mg/m³; dust and mist TWA: 0.5 mg/m³; STEL: 2 mg/m³; dust and mist STEL: 1.5 mg/m³;
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	TWA-(VLA-ED): 0.1 mg/m³; STEL (VLA-EC): 0.2 mg/m³; pSk	TLV-NGV: 0.1 mg/m³; total dust STEL (Vägledande KGV): 0.2 mg/m³; total dust Sk	TWA-MAK: 0.004 ppm; aerosol, vapour TWA-MAK: 0.02 mg/m³; aerosol, inhalable dust, vapour STEL-KZGW: 0.004 ppm; aerosol, vapour STEL-KZGW: 0.02 mg/m³; aerosol, inhalable dust, vapour Sk	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³; pSk
C.I. Pigment Yellow 164 (68412-38-4)	TWA-(VLA-ED): 0.5 mg/m³; TWA-(VLA-ED): 0.2 mg/m³; inhalable fraction TWA-(VLA-ED): 0.05 mg/m³; respirable fraction	TLV-NGV: 0.25 mg/m³; inhalable fraction TLV-NGV: 0.2 mg/m³; inhalable fraction TLV-NGV: 0.05 mg/m³; respirable fraction	TWA-MAK: 0.2 mg/m³; inhalable dust TWA-MAK: 0.1 mg/m³; respirable dust	TWA: 0.5 mg/m³; TWA: 0.2 mg/m³; inhalable fraction TWA: 0.05 mg/m³; respirable fraction STEL: 1.5 mg/m³; STEL: 0.6 mg/m³; inhalable fraction STEL: 0.15 mg/m³; respirable fraction
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	TWA-(VLA-ED): 0.1 mg/m³; STEL (VLA-EC): 0.2 mg/m³; pSk	TLV-NGV: 0.1 mg/m³; total dust STEL (Vägledande KGV): 0.2 mg/m³; total dust Sk	-	TWA: 0.1 mg/m³; STEL: 0.2 mg/m³; pSk

Note See section 16 for terms and abbreviations

Biological occupational exposure limits This product, as supplied, contains materials that do not have reportable biological exposure limits or are not subject to the reporting requirements of the local jurisdiction.

Chemical name	European Union (Directive 98/24/EC)	Austria (VGÜ 2008)	Bulgaria (Regulation No. 13)	Croatia (Official Gazette No. 91/2018)	Czech Republic (Decree Nos. 181/2015 and 240/2015)
C.I. Pigment Yellow 164 (68412-38-4)	-	Check 20 µg/L (blood - whole blood not provided) (-)	-	-	-
Chemical name	Denmark (BEK no.	Finland	France (Decree	Germany (DFG)	Germany (TRGS

	1619 of 19/12/2024)	(HTP-ARVOT 2025)	2009-157)		903)
Spinels, chromium copper black (68186-91-4)	-	-	2.5 µg/L - urine (Total Chromium) - end of shift at end of workweek	0.6 µg/L - BAR (end of exposure or end of shift) urine	-
C.I. Pigment Yellow 164 (68412-38-4)	-	-	-	0.2 µg/L - BAR (for long-term exposures: at the end of the shift after several shifts) urine 15 µg/L - BAR (no restriction in steady state) blood	-

Information on monitoring procedures

Refer to European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) or equivalent national standard(s). Refer to European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) or equivalent national standard(s). Refer to European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) or equivalent national standard(s).

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	-	1.8 mg/kg bw/d	0.062 mg/m³ [4] [6] 0.025 mg/m³

Notes
[4] Systemic health effects.
[5] Local health effects.
[6] Long term.
[7] Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	0.0032 mg/kg bw/d 0.00125 mg/kg bw/day [4] [6]	0.64 mg/kg bw/d	0.0045 mg/m³

Notes
[4] Systemic health effects.
[5] Local health effects.
[6] Long term.
[7] Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	0.0286 mg/L	0.0017 mg/L	0.00286 mg/L	-	-
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	0.0036 mg/L	0.00039 mg/L	0.00036 mg/L	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	-	-	100 mg/L	-	-
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	-	-	1 mg/L	-	-

8.2. Exposure controls

Engineering controls Ensure adequate ventilation, especially in confined areas. Apply technical measures to comply with the occupational exposure limits.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection Use appropriate respiratory protection. Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance Pellet
Physical state Solid
Color Grey
Odor Slight
Odor threshold No information available

Property	Values	Remarks • Method
Melting point / freezing point	No data available	None known
Boiling point or initial boiling point and boiling range	No data available	
Flammability	No data available	None known
Lower and upper explosion limit/flammability limit		None known
Lower explosion limit	No data available	
Upper explosion limit	No data available	
Flash point	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
SADT (°C)	No data available	None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known

Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Solubility	No data available	None known
Water solubility	No data available	None known
Partition coefficient n-octanol/water (log value)	No data available	None known
Vapor pressure	No data available	None known
Density and/or relative density	No data available	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapor density	No data available	None known
Particle characteristics		None known
Particle Size	No data available	
Particle Size Distribution	No data available	

9.2. Other information

9.2.1. Information with regard to physical hazard classes
No information available

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under recommended storage conditions.

Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Keep away from open flames, hot surfaces and sources of ignition. static discharge (electrostatic discharge). Storage near to reactive materials. Dust formation. Protect from moisture.

10.5. Incompatible materials

Incompatible materials Incompatible with strong oxidizers and with strong acids and bases (decomposes to form formaldehyde). At melt temperatures, acetal resins are incompatible with halogenated polymers such as vinyl (PVC) and any elastomers containing any halogenated polymers. At processing conditions, these materials are mutually destructive and involve rapid degradation. Even small amounts of such contaminants can cause sudden and spontaneous formaldehyde gas formation. Workplace fume well above threshold levels are a likely result. Unsafe pressurization of equipment such as extruder or mold can also result. Thoroughly purge and mechanically clean processing equipment to avoid even trace quantities of halogenated materials from coming in contact with the acetal. Prevent contamination of virgin or rework resin.

10.6. Hazardous decomposition products

Hazardous decomposition products None under normal use conditions.

SECTION 11: Toxicological information

This mixture has not been evaluated as a whole for health effects. Exposure effects listed are based on existing health data for the individual components which comprise the mixture.

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

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact May cause sensitization by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Causes mild skin irritation.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.

Acute toxicity Based on available data, the classification criteria are not met.

Numerical measures of toxicity

The following ATE values have been calculated for the mixture

ATEmix (oral)	189,035.90 mg/kg
ATEmix (dermal)	189,035.90 mg/kg
ATEmix (inhalation-gas)	425,330.80 ppm
ATEmix (inhalation-vapor)	1,039.70 mg/L
ATEmix (inhalation-dust/mist)	141.80 mg/L

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	2000 mg/kg (Rat)	2000 mg/kg (Rat)	-
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	= 3400 mg/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes mild skin irritation.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	European Union
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	Repr. 1B

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

May cause damage to the following organs through prolonged or repeated exposure: Immune system.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disruption for human health Based on available data, the classification criteria are not met.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity Harmful to aquatic life with long lasting effects.

Aquatic toxicity

Component Information

12.2. Persistence and degradability No information available.

12.3. Bioaccumulative potential

Component Information

Chemical name	Partition coefficient	Bioconcentration factor (BCF)	Trophic magnification factor (TMF)
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	-	99	-

12.4. Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment This product does not contain any substances that are assessed to be a PBT or a vPvB.

Chemical name	PBT and vPvB assessment
Spinels, chromium copper black (68186-91-4)	Not PBT/vPvB
Dioctyltin bis(2-ethylhexyl thioglycolate) (15571-58-1)	Not PBT/vPvB
C.I. Pigment Yellow 164 (68412-38-4)	Not PBT/vPvB
Monooctyltin tris(2-ethylhexyl thioglycolate) (27107-89-7)	Not PBT/vPvB

12.6. Endocrine disrupting properties Based on available data, the classification criteria are not met.

12.7. Other adverse effects No information available.

PMT or vPvM properties Based on available data, the classification criteria are not met.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special precautions for user Special Provisions None

IMDG

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special precautions for user Special Provisions None
14.7 Maritime transport in bulk according to IMO instruments No information available

RID

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special precautions for user

Special Provisions None

ADR

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special precautions for user
Special Provisions None

ADN

14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazard Not applicable
14.6 Special precautions for user
Special Provisions None

SECTION 15: Regulatory information

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

National regulations

Germany
Water hazard class (WGK) obviously hazardous to water (WGK 2)

European Union

Authorizations and/or restrictions on use:
This product contains one or more substance(s) subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV).
This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Dioctyltin bis(2-ethylhexyl thioglycolate) 15571-58-1	Use restricted. See entry 30. Use restricted. See entry 75.	58.

Regulation (EC) No. 1907/2006 (REACh), Annex XVII, entry number 78 as regards synthetic polymer microplastics (Commission Regulation (EU) 2023/2055):
The synthetic polymer microparticles supplied are subject to conditions laid down by entry 78 of Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council.

Maximum concentration of Synthetic Polymer Microparticles in the substance or mixture:	100%
Generic information on the identity of the polymers in the substance or mixture::	Polymers of vinyl chloride or of other halogenated olefins, in primary forms.

International Inventories

TSCA Not determined
DSL/NDSL Not determined
ENCS Not determined
IECSC Not determined
KECL Not determined
PICCS Not determined
AIIC Not determined
NZIoC Not determined
TCSI Not determined

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Full text of any hazard and/or precautionary statements referred to under Sections 2-15
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H332 - Harmful if inhaled
H360 - May damage fertility or the unborn child
H360D - May damage the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
P261 - Avoid breathing dust, fume, gas, mist, vapors and spray
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves
P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
P321 - Specific treatment (see supplemental first aid instructions on this label)
P333 + P313 - If skin irritation or rash occurs: Get medical advice and attention
P362 + P364 - Take off contaminated clothing and wash it before reuse
P501 - Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves, protective clothing, eye protection and face protection
P308 + P313 - IF exposed or concerned: Get medical advice and attention
P405 - Store locked up
P260 - Do not breathe dust, fume, gas, mist, vapors and spray
P314 - Get medical advice and attention if you feel unwell
P273 - Avoid release to the environment

Key or legend to abbreviations and acronyms used in the safety data sheet
List may include phrases which are not applicable to this product

ACGIH	American Conference of Governmental Industrial Hygienists
AIDII	Italian Association of Industrial Hygienists
ADN	Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Europe)
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road (Europe)
AIIC	Australian Inventory of Industrial Chemicals
ATE	Acute Toxicity Estimate
ASTM	American Society for the Testing of Materials
bar	Biological Reference Values for Chemical Compounds in the Work Area
BAT	Biological tolerance values for occupational exposure
BEL	Biological exposure limits
bw	Body weight
Ceiling	Maximum limit value
CLP	Classification, Labelling and Packaging Regulation; Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DFG	German Research Foundation
DOT	Department of Transportation (United States)
DSL	Domestic Substances List (Canada)
ECHA	European Chemicals Agency

EC Number	European Community number
EINECS	European Inventory of Existing Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
EPA	U.S. Environmental Protection Agency
EWC	European Waste Codes
GHS	Globally Harmonized System
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
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organization for Standardization
KECI	Korean Existing Chemicals Inventory
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MAK	Maximum Concentration at the Workplace
MAL	Measuring Technical Hygienic Air Needs
MARPOL	International Convention for the Prevention of Pollution from Ships
MDLPS	Ministry of Labor and Social Policy
NDSL	Non-Domestic Substances List (Canada)
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Cooperation and Development
OEL	Occupational exposure limits
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
PMT	Persistent, Mobile and Toxic
PPE	Personal protective equipment
QSAR	Quantitative Structure Activity Relationship
REACH	Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006)
RID	Agreement concerning the International Carriage of Dangerous Goods by Rail (Europe)
SADT	Self-Accelerating Decomposition Temperature
SAR	Structure-activity relationship
SDS	Safety Data Sheet
SL	Surface Limit
STEL	Short Term Exposure Limit
STOT RE	Specific target organ toxicity - Repeated exposure
STOT SE	Specific target organ toxicity - Single exposure
SVHC	Substance of very high concern
TCSI	Taiwan Chemical Substance Inventory
TDG	Transport of Dangerous Goods (Canada)
TRGS	Technical Rule for Hazardous Substances
TSCA	Toxic Substances Control Act (United States)
TWA	Time-Weighted Average
UN	United Nations
VOC	Volatile organic compounds
vPvB	Very Persistent and Very Bioaccumulative

vPvM	Very Persistent and Very Mobile
As	Allergenic substance
C	Carcinogen
DS	Dermal Sensitizer
Ot	Ototoxicant
pOt	Ototoxicant - potential to cause hearing disorders
PS	Photosensitizer
RS	Respiratory Sensitizer
S	Sensitizer
poS	Sensitizer - capable of causing occupational asthma
Sa	Simple asphyxiant
Sd	Skin designation
pSd	Skin designation - potential for cutaneous absorption
Sdv	Skin designation - vacated
Sk	Skin notation
dSk	Skin notation - danger of cutaneous absorption
pSk	Skin notation - potential for cutaneous absorption

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Chronic aquatic toxicity	Calculation method
Acute aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS
U.S. Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
U.S. Environmental Protection Agency
U.S. EPA Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
U.S. Hazardous Substance Data Bank (HSDB)
International Uniform Chemical Information Database (IUCLID)
Japan National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
U.S. National Institute for Occupational Safety and Health (NIOSH)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)

U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
International Organization for Economic Co-operation and Development (OECD) Environment, Health, and Safety Publications
International Organization for Economic Co-operation and Development (OECD) High Production Volume Chemicals Program
International Organization for Economic Co-operation and Development (OECD) Screening Information Data Set
United Nations World Health Organization (WHO)

Limit Value Legal Basis

European Union (Directive 98/24/EC)	Council Directive 98/24/EC of April 7, 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended
European Union (Directive 2004/37/EC)	Directive 2004/37/EC of April 29, 2004 on the protection of workers from the risks related to exposure to carcinogens or mutagens at work, as amended
Austria (GKV BGBl. II Nr. 330/2024)	Ordinance on Limit Values for Workplace Substances and on Carcinogens, as amended by BGBl. II Nr. 330/2024, from the Federal Ministry of Economics and Labor
Austria (VGÜ 2008)	Ordinance on health monitoring at the workplace 2008, published through BGBl. II Nr. 224/2007 by Austria Minister for Labor and Social Affairs, as amended
Belgium (Royal Decree 21/01/2020)	Royal Decree of March 11, 2002 on the protection of workers' health against risks from chemical agents at work, as amended
Bulgaria (Regulation No. 13)	Regulation No. 13 of December 30, 2003 on the Protection of Workers from Hazards Related to Exposure to Chemical Agents at Work, as amended
Bulgaria (Regulation No. 10)	Regulation No. 10 of September 26, 2003 on the Protection of Workers from the Risks Associated with Exposure to Carcinogens, Mutagens or Substances Toxic to Reproduction at Work, as amended
Croatia (Official Gazette No. 91/2018)	Official Gazette No. 91/2018 on the Protection of Workers from Exposure to Hazardous Chemicals at Work, the Limit Values of Exposure and the Biological Limit Values, as amended
Cyprus (Cabinet of Ministers Regulation 268/2001)	Cabinet of Ministers Regulation 268/2001 - Safety and Health in the Working Environment (Chemical Substances), as amended
Cyprus (Cabinet of Ministers Regulation 153/2001)	Cabinet of Ministers Regulation 153/2001 - Safety and Health in the Working Environment (Chemical Substances-Carcinogens), as amended
Czech Republic (Regulation 361/2007)	Conditions for the Protection of the Health of Employees at Work, Government Regulation 361/2007, as amended
Czech Republic (Decree Nos. 181/2015 and 240/2015)	Decree 181/2015 and Decree 240/2015, amending Decree No. 432/2003 Coll., laying down the conditions for the application of the work into categories, limit values for the parameters of biological exposure tests and requirements for reporting work with asbestos and biological agents
Denmark (BEK no. 1619 of 19/12/2024)	Statutory Order No. 507, Order on Limit Values for Substances and Materials, as amended by BEK no. 1619 of 19/12/2024
Estonia (Regulation No. 105)	Health and Safety Requirements for the Use of Dangerous Chemicals and Materials Containing Them and Occupational Exposure Limits to Chemical Agents, Regulation No. 105 of March 20, 2001, as amended
Finland (HTP-ARVOT 2025)	Regulation on Concentrations Known to be Hazardous, 55/2025, Publications of Ministry of Social Affairs and Health
France (INRS ED 6443)	Occupational Exposure Limit Values, ED 6443, Published 2021 by the INRS (the National Research and Safety Institute for the Prevention of Occupational Accidents and Diseases), as amended
France (Decree 2009-157)	Decree 2009-1570 of December 15, 2009, relative to the control of chemical risk on workplaces
Germany TRGS	TRGS 900 - Occupational Exposure Limits, Technical Rules for Dangerous Substances, 2025
Germany (TRGS 903)	Biological Threshold Limits (BGW-Values), Technical Rules for Dangerous Substances, 2025
Germany (DFG)	MAK and BAT values of Hazardous Chemical Compounds in the Work Area, published by the German Research Foundation on July 1, 2025
Greece (Presidential Decree 90/1999)	Presidential Decree 90/1999, Occupational Exposure Limits - Protection of workers' health and safety from exposure to certain chemical substances during the workday, as amended
Greece (Presidential Decree 212/2006)	Presidential Decree 212/2006, Protection of workers that are exposed to asbestos
Greece (Presidential Decree 338/2001)	Presidential Decree 338/2001, Protection of workers' health and safety from exposure to

	certain chemical substances during the workday
Hungary (5/2020 ITM Decree)	5/2020. (II. 6.) Ministry of Innovation and Technology decree on the protection of the health and safety of workers from the risks related to chemical agents, as amended
Ireland (CoP 2024)	2024 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations (2001-2021) & the Safety, Health and Welfare at Work (Carcinogens, Mutagens and Reprotoxic Substances) Regulations (2024)
Italy (Legislative Decree no. 81)	Title IX, Annex XLIII and XXXVIII, Professional Exposure Limits and Annex XXXIX Mandatory Biological Limit Values and Health Monitoring, Legislative Decree no. 81 of April 9, 2008, as amended
Italy (AIDII)	Final Note (1), Ministerial Decree of August 20, 1999 by the Ministry of Health along with the Ministry of Industry, Trade, and Arts
Latvia (Cabinet of Ministers Regulation No. 325)	Cabinet of Ministers Regulation No. 325 of 2007 - Labor Protection Requirements when Coming in Contact with Chemical Substances at Workplaces, as amended
Lithuania (HN 23:2011)	Lithuanian Hygiene Standard HN 23:2011 Occupational Exposure limit values for chemical substances - General requirements of measurement and impact assessment, as amended
Luxembourg (A-N°684)	Grand-Ducal Regulation of 20 July 2018 amending the Grand-Ducal Regulation of 14 November 2016 concerning the protection of the safety and health of employees against the risks associated with chemical agents in the workplace, A-N°684 of 2018
Malta (Subsidiary Legislation 424.24)	Malta Occupational Health and Safety Authority Act: Chapter 424 - Protection of the health and safety of workers from the risks related to chemical agents at work, as amended
Netherlands (Working Conditions Regulations)	Occupational Working Conditions Regulation, Limit Values for substances harmful to health, Annex XIII, as amended
Norway (FOR-2011-12-06-1358)	Regulations concerning action and limit values for physical and chemical agents in the working environment and classified biological agents, as amended
Poland (Legislative Journal 2018 item 1286)	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the Highest Allowable Concentrations and Intensities of Factors Harmful to Health in the Work Environment, as amended
Portugal (NP 1796:2014)	Portuguese Norm NP 1796:2014, Occupational exposure limits and biological exposure indices to chemical agents, Table 1 - Occupational exposure limits and biological exposure indices to chemical agents (OELs)
Romania (Government Decision no. 1218/2006)	Governmental Decision No. 1218 from September 6, 2006 on the minimum health and safety requirements for protection of workers from the risks related to exposure to chemical agents, Annex No. 1 Mandatory National Occupational Exposure Limit Values for Chemical Agents
Slovakia (Gov. Decree 122/2024)	Government Decree of Slovak Republic 122/2024 of May 22, 2024 amending Government Decree of Slovak Republic 355/2006 about protection of health of employees when working with chemical agents
Slovenia (Regulation No. 100/2001)	Regulation for protection of workers against risks related to exposure to chemical substances at the workplace, Annexes I and II, the Official Gazette of the Republic of Slovenia, No. 100/2001, as amended
Slovenia (Regulation No. 29/2024)	Regulation for protection of workers against risks related to carcinogenic, mutagenic or reprotoxic substances exposure at work, Annex III, The Official Journal of the Republic of Slovenia, No. 29/2024, as amended
Spain (Occupational exposure limits for chemical agents in Spain, 2025)	National Institute for Safety and Health at Work (INSST) - Occupational exposure limits for chemical agents in Spain, 2025, Tables 1 and 3
Sweden (AFS 2023:14)	The Swedish Work Environment Authority's Regulations and General Advice on Respiratory limit values in the work Environment
Switzerland (MAK Values)	Occupational Limit Values 2025, Swiss National Accident Insurance Fund, List of MAK Values
Switzerland (BAT Values)	Occupational Limit Values 2025, Swiss National Accident Insurance Fund, List of Biological Limit Values

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End of Safety Data Sheet