

SAFETY DATA SHEET



INFRALIT PUR 8456-09 - All variants

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

1.1 Product identifier

Product name : INFRALIT PUR 8456-09 - All variants

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

Product use : Paint.

1.3 Details of the supplier of the safety data sheet

Teknos Group Oy, Takkatie 3, FI-00370 HELSINKI, FINLAND. Tel. +358 9 506 091.

e-mail address of person responsible for this SDS : Prod-safe@teknos.com

National contact

Teknos Group Oy, Takkatie 3, FI-00370 HELSINKI, FINLAND. Tel. +358 9 506 091.

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : In an emergency, call 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

STOT RE 2, H373

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : P260 - Do not breathe dust.

Response : P314 - Get medical advice/attention if you feel unwell.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Contains: Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethyl-, homopolymer, caprolactam-blocked

Supplemental label elements : Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

SECTION 2: Hazards identification

Annex XVII - Restrictions :
on the manufacture,
placing on the market and
use of certain dangerous
substances, mixtures and
articles

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
titanium dioxide	REACH #: 01-2119489379-17 EC: 236-675-5 CAS: 13463-67-7	≤10	Carc. 2, H351 (inhalation)	-	[1] [*]
Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethyl-, homopolymer, caprolactam-blocked	REACH #: 01-2119979523-27 CAS: 127184-53-6	<10	STOT RE 1, H372 See Section 16 for the full text of the H statements declared above.	-	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[*] The classification as a carcinogen by inhalation applies only to mixtures placed on the market in powder form containing 1% or more of titanium dioxide particles with aerodynamic diameter ≤ 10 µm not bound within a matrix.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SECTION 4: First aid measures

- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure or if feeling unwell. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : No specific fire or explosion hazard.
- Hazardous combustion products** : Decomposition products may include the following materials:
sulfur oxides
metal oxide/oxides

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

SECTION 6: Accidental release measures

- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- 6.3 Methods and material for containment and cleaning up**
- Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Exposure limit values
Aluminium powder (stabilized)	Regulation on Limit Values - MAC (Austria, 12/2024) TWA 8 hours: 10 mg/m ³ . Form: Inhalable fraction. PEAK 60 minutes: 20 mg/m ³ 2 times per shift. Form: Inhalable fraction. PEAK 60 minutes: 10 mg/m ³ 2 times per shift. Form: Respirable fraction. TWA 8 hours: 5 mg/m ³ . Form: Respirable fraction.
Aluminium powder (stabilized)	Limit values (Belgium, 12/2023) [Aluminium (metaal en onoplosbare verbindingen)] TWA 8 hours: 1 mg/m ³ . Form: Respirable fraction.
Aluminium powder (stabilized)	Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 4/2024) Limit value 8 hours: 2 mg/m ³ (as Aluminum).
Aluminium powder (stabilized)	Ordinance on the protection of workers from exposure to hazardous chemicals at work, exposure limit values (Annex I) (Croatia, 12/2023) ELV 8 hours: 4 mg/m ³ . Form: Respirable dust. ELV 8 hours: 10 mg/m ³ . Form: total dust, inhalable particles.
No exposure limit value known.	
Aluminium powder (stabilized)	Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 12/2023) [hliník a jeho oxidy (s výjimkou gama Al₂O₃)] TWA 8 hours: 10 mg/m ³ . Form: Dust.
Organic dust	Working Environment Authority (Denmark) TWA 8 hours: 3 mg/m ³ .
Aluminium powder (stabilized)	Working Environment Authority (Denmark, 12/2024) TWA 8 hours: 5 mg/m ³ . Form: powder and dust, total. TWA 8 hours: 2 mg/m ³ . Form: powder or dust, respirable. STEL 15 minutes: 4 mg/m ³ . Form: powder or dust, respirable. STEL 15 minutes: 10 mg/m ³ . Form: powder and dust, total.
Organic dust	Biological exposure limits, Regulation number 193 (Estonia) TWA 8 hours: 5 mg/m ³ .
Aluminium powder (stabilized)	Occupational exposure limits, Regulation No. 293 (Estonia, 4/2024) [alumiiniumi lahustuvad ühendid] TWA 8 hours: 2 mg/m ³ . Occupational exposure limits, Regulation No. 293 (Estonia, 4/2024) [alumiinium, metalliline ja oksiidid] TWA 8 hours: 4 mg/m ³ . Form: Respirable dust. TWA 8 hours: 10 mg/m ³ . Form: Total dust.
No exposure limit value known.	
Organic dust	Institute of Occupational Health, Ministry of Social Affairs (Finland) TWA 8 hours: 5 mg/m ³ . STEL 15 minutes: 10 mg/m ³ .
Aluminium powder (stabilized)	Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021) TWA 8 hours: 1.5 mg/m ³ (calculated as Al). Form: Aerosol.
Aluminium powder (stabilized)	Ministry of Labor (France, 6/2024) TWA 8 hours: 10 mg/m ³ . Notes: Permissible limit values (circulars) TWA 8 hours: 5 mg/m ³ . Form: powder. Notes: Permissible limit values (circulars)

SECTION 8: Exposure controls/personal protection

Organic dust	DFG MAC-values list (Germany) TWA 8 hours: 5 mg/m ³ .
Aluminium powder (stabilized)	TRGS 900 OEL (Germany, 6/2024) [Allgemeiner Staubgrenzwert] TWA 8 hours: 1.25 mg/m ³ . Form: Respirable fraction. PEAK 15 minutes: 20 mg/m ³ . Form: Inhalable fraction. TWA 8 hours: 10 mg/m ³ . Form: Inhalable fraction. PEAK 15 minutes: 2.5 mg/m ³ . Form: Respirable fraction. DFG MAC-values list (Germany, 7/2024) [Aluminium compounds, soluble (non-irritating)] Develop C. PEAK 15 minutes: 0.01 mg/m ³ 4 times per shift [Interval: 1 hour]. Form: inhalable fraction. TWA 8 hours: 0.005 mg/m ³ . Form: inhalable fraction. DFG MAC-values list (Germany, 7/2024) [Aluminium compounds, soluble (irritating)] Develop C. PEAK 15 minutes: 0.0004 mg/m ³ 4 times per shift [Interval: 1 hour]. Form: inhalable fraction. TWA 8 hours: 0.0002 mg/m ³ . Form: inhalable fraction. DFG MAC-values list (Germany, 7/2024) [Aluminium and its poorly soluble compounds] Carc 4, Develop D. PEAK 15 minutes: 4 mg/m ³ 4 times per shift [Interval: 1 hour]. Form: inhalable fraction. PEAK 15 minutes: 0.4 mg/m ³ 4 times per shift [Interval: 1 hour]. Form: respirable fraction. TWA 8 hours: 0.5 mg/m ³ . Form: inhalable fraction. TWA 8 hours: 0.05 mg/m ³ . Form: respirable fraction.
Aluminium powder (stabilized)	Presidential Decree 307/1986: Occupational exposure limit values (Greece, 8/2024) TWA 8 hours: 10 mg/m ³ (as Al). Form: Welding fume. TWA 8 hours: 10 mg/m ³ . Form: Dust.
Aluminium powder (stabilized)	5/2020. (II. 6.) ITM Decree (Hungary, 1/2025) TWA 8 hours: 1 mg/m ³ (as Al). Form: Respirable.
Aluminium powder (stabilized)	Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Ál] STEL 15 minutes: 10 mg/m ³ . Form: powder and dust. TWA 8 hours: 5 mg/m ³ . Form: powder and dust. Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Álreykur] TWA 8 hours: 5 mg/m ³ (as Al). Form: Fume.
Aluminium powder (stabilized)	NAOSH (Ireland, 4/2024) Notes: Advisory Occupational Exposure Limit Values (OELVs) OELV 8 hours: 10 mg/m ³ . Form: inhalable dust. OELV 8 hours: 5 mg/m ³ . Form: fume. OELV 8 hours: 1 mg/m ³ . Form: respirable fraction.
No exposure limit value known.	
Aluminium powder (stabilized)	Ministers Cabinet Regulations Nr.325 - AER (Latvia, 3/2024) [Alumīnijs un tā sakausējumi] TWA 8 hours: 2 mg/m ³ (as aluminium).
Aluminium powder (stabilized)	Lithuanian Hygiene Standard HN 23 (Lithuania, 1/2024) [aliuminis ir tirpūs jo junginiai] TWA 8 hours: 1 mg/m ³ (as Al).
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
Organic dust	FOR-2011-12-06-1358 (Norway) TWA 8 hours: 5 mg/m ³ .
Aluminium powder (stabilized)	FOR-2011-12-06-1358 (Norway, 5/2024) TWA 8 hours: 5 mg/m ³ . Form: pyrophoric powder.

SECTION 8: Exposure controls/personal protection

Organic dust	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland) TWA 8 hours: 10 mg/m ³ .
Aluminium powder (stabilized)	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 7/2024) TWA 8 hours: 2.5 mg/m ³ . Form: Inhalable fraction. TWA 8 hours: 1.2 mg/m ³ . Form: Respirable fraction.
Aluminium powder (stabilized)	Portuguese Institute of Quality (Portugal, 11/2014) [alumínio e compostos insolúveis] A4. TWA 8 hours: 1 mg/m ³ (expressed as Al). Form: Respirable fraction.
Aluminium powder (stabilized)	HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2024) [aluminii și oxizi] VLA 8 hours: 3 mg/m ³ . Form: Dust. Short term 15 minutes: 10 mg/m ³ . Form: Dust. VLA 8 hours: 1 mg/m ³ . Form: Fume. Short term 15 minutes: 3 mg/m ³ . Form: Fume.
Aluminium powder (stabilized)	Government regulation SR c. 355/2006 (Slovakia, 6/2024) Inhalation sensitiser. TWA 8 hours: 1.5 mg/m ³ . Form: Respirable fraction. TWA 8 hours: 4 mg/m ³ . Form: Inhalable fraction.
No exposure limit value known.	
Aluminium powder (stabilized)	National institute of occupational safety and health (Spain, 1/2024) TWA 8 hours: 1 mg/m ³ . Form: Respirable dust.
Organic dust	Work environment authority Regulation 2018:1 (Sweden) TWA 8 hours: 5 mg/m ³ .
Aluminium powder (stabilized)	Work environment authority Regulation 2018:1 (Sweden, 11/2022) [aluminium, soluble compounds] TWA 8 hours: 1 mg/m ³ (as Al). Form: Total dust. Work environment authority Regulation 2018:1 (Sweden, 11/2022) [aluminium and oxide] TWA 8 hours: 2 mg/m ³ (as Al). Form: respirable fraction. TWA 8 hours: 5 mg/m ³ (as Al). Form: Total dust.
Aluminium powder (stabilized)	SUVA (Switzerland, 1/2025) TWA 8 hours: 3 mg/m ³ . Form: Respirable fraction.
No exposure limit value known.	

Biological exposure indices

Product/ingredient name	Exposure indices
Aluminium powder (stabilized)	VGU BEI (Austria, 9/2020) BEI Fitness: 60 µg/g Kreatinin, aluminium [in urine]. Sampling time: one year.
No exposure indices known.	
No exposure indices known.	
Aluminium powder (stabilized)	Ordinance on the protection of workers from exposure to hazardous chemicals at work, biological limit values (Annex IV) (Croatia, 12/2023) BEI: 200 µg/l, aluminium [in urine]. Sampling time: at the end of the work shift.
No exposure indices known.	
No exposure indices known.	

SECTION 8: Exposure controls/personal protection

No exposure indices known. No exposure indices known. No exposure indices known. No exposure indices known. No exposure indices known. Aluminium powder (stabilized)	DFG BEI-values list (Germany, 7/2024) BEI: 50 µg/g creatinine, aluminium [in urine]. Sampling time: at the end of the shift, for long-term exposures after several previous shifts. TRGS 903 - BEI Values (Germany, 10/2024) BEI: 50 µg/g creatinine, aluminum [in urine]. Sampling time: at the end of the shift, for long-term exposure after several previous shifts.
No exposure indices known. Aluminium powder (stabilized)	5/2020. (II. 6.) ITM Decree (Hungary, 12/2023) BEI: 0.25 µmol/mmol creatinine, aluminium [in urine]. Sampling time: not critical. BEI: 0.06 mg/g creatinine, aluminium [in urine]. Sampling time: not critical.
No exposure indices known. No exposure indices known. No exposure indices known. Aluminium powder (stabilized)	Minister Cabinet Regulations No.325 - BEI (Latvia, 3/2024) [alumīnijs] BEI: 50 µg/g creatinine, aluminium [in urine]. Sampling time: at the end of the shift after several previous shifts.
No exposure indices known. No exposure indices known. No exposure indices known. No exposure indices known. No exposure indices known. No exposure indices known. No exposure indices known. Aluminium powder (stabilized)	HG 1218/2006, Annex 2, with subsequent modifications and additions (Romania, 3/2024) [aluminu] OBLV: 200 µg/l, aluminum [in urine]. Sampling time: end of shift.
Aluminium powder (stabilized)	Government regulation SR c. 355/2006 (Slovakia, 6/2024) BLV: 251.8 nmol/mmol creatinine, as aluminum [in urine]. Sampling time: no limitation. BLV: 60 µg/g creatinine, as aluminum [in urine]. Sampling time: no limitation.
No exposure indices known. No exposure indices known. No exposure indices known. Aluminium powder (stabilized)	SUVA (Switzerland, 1/2025) BEI: 50 µg/g creatinine, aluminium [in urine]. Sampling time: with long-term exposure: after several previous shifts. BEI: 0.21 µmol/mmol creatinine, aluminium [in urine]. Sampling time: with long-term exposure: after several previous shifts.
No exposure indices known.	

SECTION 8: Exposure controls/personal protection

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: 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) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name

titanium dioxide

Result

DNEL - General population - Long term - Inhalation

28 µg/m³

Effects: Local

DNEL - Workers - Long term - Inhalation

170 µg/m³

Effects: Local

Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethyl-, homopolymer, caprolactam-blocked

DNEL - General population - Long term - Inhalation

0.013 mg/m³

Effects: Local

DNEL - General population - Short term - Inhalation

0.065 mg/m³

Effects: Local

DNEL - Workers - Long term - Inhalation

0.075 mg/m³

Effects: Local

DNEL - Workers - Short term - Inhalation

0.375 mg/m³

Effects: Local

PNECs

Not available.

8.2 Exposure controls

Appropriate engineering controls

: If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

SECTION 8: Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Recommendations : Wear gloves according to EN374 to protect against skin effects from powders.
- > 8 hours (breakthrough time): Nitrile gloves. thickness > 0.3 mm
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Filter type: P 2
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Solid.
- Colour** : Various
- Odour** : Slight
- Odour threshold** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** :

Ingredient name	°C	°F	Method
Barium sulphate	1599.85	2911.7	
Aluminium powder (stabilized)	2327	4220.6	

- Flammability** : Not available.
- Lower and upper explosion limit** : Lower: Not applicable.
Upper: Not applicable.
- Flash point** : Closed cup: >100°C (>212°F)
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : Not available.
- pH** : Not applicable.
- Viscosity** : Not available.
- Solubility(ies)** :
Not available.
- Solubility in water** : Not available.

SECTION 9: Physical and chemical properties

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

Vapour pressure : Not available.

Relative density : Not available.

Density : 1.6 g/cm³

Vapour density : Not applicable.

Particle characteristics

Median particle size : Not available.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties : Not available.

Oxidising properties : Not available.

9.2.2 Other safety characteristics

Not applicable.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Acute toxicity estimates

N/A

Skin corrosion/irritation

Product/ingredient name

titanium dioxide

Result

Human - Skin - Mild irritant

Duration of treatment/exposure: 72 hours

Amount/concentration applied: 300 ug l

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Not available.

SECTION 11: Toxicological information

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not available.

Carcinogenicity

It has been observed that the carcinogenic hazard of this product arises when respirable dust is inhaled in quantities leading to significant impairment of particle clearance mechanisms in the lung.

Not available.

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name

Cyclohexane, 5-isocyanato-1-
(isocyanatomethyl)-1,3,3-trimethyl-,
homopolymer, caprolactam-blocked

Result

STOT RE 1, H372

Aspiration hazard

Not available.

Information on likely routes of exposure

Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

SECTION 11: Toxicological information

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: No specific data.
Ingestion	: No specific data.

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

Short term exposure

Potential immediate effects	: Not available.
Potential delayed effects	: Not available.

Long term exposure

Potential immediate effects	: Not available.
Potential delayed effects	: Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product]	: Not available.
General	: May cause damage to organs through prolonged or repeated exposure.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Reproductive toxicity	: No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product]	: The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.
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11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name

titanium dioxide

Result

Acute - LC50 - Marine water

Fish - Mummichog - *Fundulus heteroclitus*
>1000000 µg/l [96 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Crustaceans - Water flea - *Ceriodaphnia dubia* - Neonate
Age: <24 hours
3 mg/l [48 hours]

Effect: Mortality

Conclusion/Summary [Product]	: Not available.
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12.2 Persistence and degradability

Not available.

Conclusion/Summary [Product]	: Not available.
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12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

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SECTION 12: Ecological information

Soil/water partition coefficient

Not available.

Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
titanium dioxide	No	No	No	No	No	No	No
Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethyl-, homopolymer, caprolactam-blocked	No	No	No	No	No	No	No

Mobility : Not available.

Conclusion/Summary : The product does not meet the criteria to be considered as a PMT or vPvM.

12.5 Results of PBT and vPvB assessment

Regulation (EC) No. 1907/2006 [REACH]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
titanium dioxide	No	No	No	No	No	No	No
Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethyl-, homopolymer, caprolactam-blocked	N/A	N/A	N/A	Yes	N/A	N/A	N/A

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

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
titanium dioxide	No	No	No	No	No	No	No
Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethyl-, homopolymer, caprolactam-blocked	No	No	No	No	No	No	No

Conclusion/Summary : The product does not meet the criteria to be considered as a PBT or vPvB.

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

12.6 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

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SECTION 13: Disposal considerations

European waste catalogue (EWC) : 080201

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

Additional information

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments : Not relevant/applicable due to nature of the product.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Labelling :

Other EU regulations

SECTION 15: Regulatory information

**Industrial emissions
(integrated pollution
prevention and control) -
Air** : Listed

**Industrial emissions
(integrated pollution
prevention and control) -
Water** : Listed

Explosive precursors : This product is regulated by Regulation (EU) 2019/1148. All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

Ozone depleting substances (EU 2024/590)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

Austria

**Limitation of the use of
organic solvents** : Permitted.

Belgium

Book VI carcinogenic agents annex VI.2-1 - VI.2-3

Ingredient name	Status
Noirs de charbon	Listed

Czech Republic

Storage code : IV

Denmark

Fire class : IV-1

Executive Order No. 1795/2015

Ingredient name	Annex I Section A	Annex I Section B
titanium dioxide	Listed	-

MAL-code : 5-6

Protection based on MAL : According to the regulations on work involving coded products, the following stipulations apply to the use of personal protective equipment:

General: Gloves must be worn for all work that may result in soiling. Apron/coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. A face shield must be worn in work involving spattering if a full mask is not required. In this case, other recommended use of eye protection is not required.

In all spraying operations in which there is return spray, the following must be worn: respiratory protection and arm protectors/apron/coveralls/protective clothing as appropriate or as instructed.

SECTION 15: Regulatory information

Application: When using scraper or knife, brush, roller etc. for pre- and post-treatments in a spray booth where the operator is outside the spray zone and when working in similar new* facilities of the combined-cabin, spray-cabin and spray-booth type where the operator is working inside the spray zone. When spraying in new* booths and cabins with non-atomizing guns.

- During non-atomising spraying in existing* facilities of the combined-cabin, spray-cabin and spray-booth type where the operator is working inside the spray zone.
- When spraying in existing* spray booths, if the operator is outside the spray zone.
- When using scraper or knife, brush, roller, etc, for pre- and post-treatments in cabins or booths of the existing* facility type, if the operator is inside the spray zone.
- When using scraper or knife, brush, roller, etc. for pre- and post-treatments outside a closed facility, spray booth or spray cabin. During downtimes, cleaning and repair in closed facilities, spray booths or cabins, if there is a risk of contact with wet paint or organic solvents.

- When spraying in new* booths if the operator is outside the spray zone.

- During all spraying where atomisation occurs in cabins or spray booths where the operator is inside the spray zone and during spraying outside a closed facility, cabin or booth.

- Air-supplied full mask, protective clothing and hood must be worn.

Drying: Items for drying/drying ovens that are temporarily placed on such things as rack trolleys, etc, must be equipped with a mechanical exhaust system to prevent fumes from wet items from passing through workers' inhalation zone.

Polishing: When polishing treated surfaces, a mask with dust filter must be worn. When machine grinding, eye protection must be worn. Work gloves must always be worn.

Caution The regulations contain other stipulations in addition to the above.

*See Regulations.

Restrictions on use : Not to be used by professional users below 18 years of age. See the National Working Environment Authorities Executive Order regarding Young People At Work.

List of undesirable substances : Not listed

Carcinogenic waste : Waste containers must be labeled: Contains a substance or substances regulated by Danish working environment legislation on cancer risks.

Finland

France

Reinforced medical surveillance : Act of July 11, 1977 determining the list of activities which require reinforced medical surveillance; not applicable

Germany

Storage class (TRGS 510) : 13

Hazardous incident ordinance

This product is not controlled under the Germany Hazardous Incident Ordinance.

Hazard class for water : 2

Technical instruction on air quality control (TA Luft)

SECTION 15: Regulatory information

Number [Class]	Description	%
5.2.1	Total dust	92.2
5.2.5	Organic substances	7.8
5.2.5 [I]	Organic substances	7.7
5.2.7.1.3	Reproductive toxic substances	0.047

Italy

D.Lgs. 152/06 : Not determined.

Netherlands

Ministry of Social Affairs and Employment (SZW) - Carcinogenic substances and processes, mutagenic or reprotoxic substances

Ingredient name	Carcinogen	Mutagen	Reproductive toxicity - Fertility	Reproductive toxicity - Development	Harmful via breastfeeding
aluminiumverbindingen, oplosbaar	-	-	-	Development 1B	Listed

Water Discharge Policy (ABM) : A(2) Toxic for aquatic organisms, may have long-term hazardous effects in aquatic environment. Decontamination effort: A

Norway

Sweden

Switzerland

VOC content : Exempt.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
SGG = Segregation Group
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

SECTION 16: Other information

Classification	Justification
STOT RE 2, H373	Calculation method

Full text of abbreviated H statements

H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.

Full text of classifications [CLP/GHS]

Carc. 2	CARCINOGENICITY - Category 2
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

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Notice to reader

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.

