

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

1.1. Product identifier

Product Name: enhanceU-T

Product form:: Mixture

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

Main use category: Professional use, Industrial use.

Uses of the substance/mixture: Cosmetic raw material, UV filter.

Uses advised against: None.

1.3. Details of the supplier of the safety data sheet

Advanced Dispersed Particles S.L.

Calle del Oro, 45 -nave 14- P. I. Sur;

28770 Colmenar Viejo, Madrid (Spain).

T: +34910136640

technical@ad-particles.com

1.4. Emergency telephone number

T: +34910136640 (Monday – Thursday (08:00 hr – 17:00 hr) and Friday (08:00 hr – 15:00 hr))

Or please contact your local distributor.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

This mixture it is not hazardous according to Regulation (EC) No. 1272/2008 [CLP].

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Not applicable (Mixture not classified hazardous according to Globally Harmonized System, GHS).

2.3. Other hazards

PBT, vPvB: not assessed. The mixture does not meet the classification criteria under REACH Regulation

Dust may be generated if handling is not appropriate

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable.

3.2. Mixtures

Components	%	CAS No.	EC No.	REACH Registration No.	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Titanium dioxide	90 – 96	13463-67-7	236-675-5	01-2119489379-17	Not classified
Silicon dioxide	2 – 5	7631-86-9	231-545-4	01-2119379499-16	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures



General information: Remove the victim out of the danger area.

Following inhalation: Go outdoors. In case of breathing difficulties seek medical advice.

Following skin-contact: Take off all contaminated clothing. Wash with soap and water. If skin irritation develops and persists, seek medical advice.

Following eye-contact: Rinse cautiously with water for several minutes. If any discomfort, seek medical advice.

Following ingestion: Rinse mouth thoroughly with water. Seek medical attention. Do not induce vomiting or give anything by mouth to an unconscious person. If a victim vomits when lying on his back or unconscious, place the person on her/his side (recovery position).

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

There is no description of toxic symptoms.

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

No further relevant information available. Symptomatic treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media



Suitable extinguishing media: Water spray, foam, dry extinguishing powder, carbon dioxide (CO₂).

Unsuitable extinguishing media: Strong water jet.

5.2. Special hazards arising from the substance or mixture

Non-combustible. Toxic fumes could be generated in case of fire.

5.3. Advice for firefighters

Firefighting Instructions: Be cautious. Water spray can be used to cool closed containers. The remains of the fire, as well as the contaminated extinguishing water, must be disposed of according to the local regulations in force.

Protection during firefighting: Do not intervene without suitable protective equipment. Autonomous and insulating respiratory protection device. Complete body protection. Firefighter clothing (including protective helmets, gloves and boots) conforming to the European standard EN 469 provides a basic level of protection in the event of a chemical incident.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures



6.1.1. For non-emergency personnel:

Wear suitable protective equipment, see section 8. Provide sufficient ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

6.1.2. For emergency responders

Do not intervene without suitable protective equipment.

Use personal protective equipment, see section 8. Avoid generation and breath of dust. Ensure adequate ventilation.

6.2. Environmental precautions

Do not release into the environment. Keep away from drains, surface and ground water. Do not pollute the water. Prevent further leaks or spills if it can be done without risk.

If the product contaminates rivers, lakes and / or sewers, inform the respective authorities.

6.3. Methods and material for containment and cleaning up

Containment: Contain the spill. Close drains.

Cleaning: Avoid dust generation. Collect and transfer correctly to labelled containers suitable for disposal. Use mechanical handling equipment. Do not use compressed air.

Other information: Dispose of materials or solid waste in an authorized centre. Local authorities should be informed if major spills cannot be contained.

6.4. Reference to other sections

Personal protective equipment, see section 8.

Disposal considerations, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Work in well-ventilated areas or use personal protective equipment (see section 8). Avoid inhalation of dusts. Handle carefully to avoid dust generation. Use dust extraction system. Do not breathe the dusts. Dispose of rinse water in accordance with national and local regulations.

Respect good occupational hygiene practices: do not eat, drink and / or smoke in work areas; wash hands after each use, and remove contaminated clothing and protective equipment before entering eating areas. Do not wear contact lenses when handling chemicals.

7.2. Conditions for safe storage, including any incompatibilities

Technical requirements: Store in the original container. Keep the container properly closed in a dry and well-ventilated place. To maintain product quality, do not store in heat or direct sunlight.

Common storage: Incompatible products should not be specially mentioned.

Other information: No decomposition if stored and applied as directed

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure limit values

Titanium dioxide (13463-67-7)

Country	Value type	Control parameters	Basis
Austria	KZW respirable dust/ alveolar fraction	10 mg/m ³	AT OEL
	TMW respirable dust/ alveolar fraction	5 mg/m ³	
Belgium	VLE 8h	10 mg/m ³	BE OEL
Denmark	GV	6 mg/m ³	DK OEL
France	VME inhalable dust	10 mg/m ³	FR VLE
	VME respirable dust	5 mg/m ³	
Germany	AGW inhalable dust	10 mg/m ³	DE TRGS 900
	AGW respirable dust	1,25 mg/m ³	
Great Britain	TWA LTEL inhalable dust	10 mg/m ³	GB EH40
	TWA LTEL respirable dust	4 mg/m ³	
Italy	TWA	10 mg/m ³	ACGIH
USA	TWA ACGIH-TLV	10 mg/m ³	NIOSH
	TWA LTEL OSHA-PEL	15 mg/m ³	OSHA

Silicon dioxide (7631-86-9)

None.

8.1.2. Recommended monitoring procedures

No further information is available.

8.1.3. Air contaminants formed

No further information is available.

8.1.4. DNEL and PNEC

Titanium dioxide 13463-67-7

DNEL/DMEL

Workers	Long-term - local effects, inhalation	10 mg/m ³
General population	Long-term - systemic effects, oral	700 mg/kg dry weight

PNEC

Water	PNEC water (fresh water)	0,184 mg/l
	PNEC water (seawater)	0,0184 mg/l
	PNEC water (intermittent, fresh water)	0,193 mg/l
Sediments	PNEC sediments (fresh water)	1000 mg/kg dry weight
	PNEC sediments (seawater)	100 mg/kg dry weight
Soil	PNEC soil	100 mg/kg dry weight
STP	PNEC wastewater treatment plant	100 mg/l

Silicon dioxide 7631-86-9

DNEL/DMEL

Workers	Long-term - local effects, inhalation	4 mg/m ³
	Long-term - systemic effects, inhalation	4 mg/m ³
General population	Not relevant	-

PNEC

Not relevant.

8.1.5. Control banding

No further information is available.

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Engineering measures: No specific measures. When handling high concentrations of powder, technical measures should be given priority over the use of personal protective equipment.

The workplace must be well ventilated. Install emergency showers and eye wash stations in storage and handling locations.

8.2.2. Individual protection measures, such as personal protective equipment.

Eye/face protection: use eye protection designed to protect against dust, in accordance with EN 166. E.g.: Face shields safety glasses.

Hand protection: Wear chemical resistant gloves according to EN ISO 374.

Material	Thickness	Permeation
Nitrile Rubber (NBR)	0.4	6 (> 480 minutes)
Chloroprene rubber	0.5	6 (> 480 minutes)
Butyl gum	0.7	6 (> 480 minutes)

Body protection: Wear suitable protective clothing. Take off contaminated clothing and wash before reuse. EN ISO 13982-1 (type 5)

Hygiene measures: Wash your hands before breaks and immediately after handling the substance.

Respiratory protection: In case of insufficient ventilation, use a suitable respiratory device. Dust / aerosol mask with filter type P2, mask EN 149: FFP2. Dust / aerosol mask with type P3 filter. Half mask and quarter mask respirators with replaceable filter cartridges must comply with European standard EN 140. Particulate filters must comply with European standard EN 143.

Thermal hazards: Not known.

Symbol / s of personal protective equipment:



8.2.3. Environmental exposure controls

See section 6 and 7.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid. Powder.

Colour: White.

Smell: Odourless (Odour threshold: not applicable).

Melting point: > 1800 °C.

Freezing point: Not applicable.

Boiling point: Not applicable.

Flammability: The product has no flammability. Explosive or self-flammability properties.

Lower explosion limits (LEL): Not applicable.

Upper explosion limits (UEL): Not applicable.

Flash point: Not applicable.

Auto-ignition temperature: Not applicable.

Decomposition temperature: No decomposition was observed until 1800 °C (TiO₂).

pH: 6-9 (solution 100 g/L at 20 °C).

Kinematic viscosity: Not applicable.

Solubility: water ≤ 5%; hydrochloric acid ≤ 10%.

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

Vapour pressure: Not applicable.

Density and/or relative density: 500 – 900 kg/m³.

Particle size: 5 – 17 µm D50 (% volume, laser diffraction, solid sample).

Particle size distribution: 0,1 – 45 µm (% volume, laser diffraction).

Particle shape/aspect ratio: Not quantifiable.

Aggregation state of the particles: Particle aggregates are observed (high resolution microscope).

Agglomeration state of the particles: Agglomerates can be found: follow the dispersion advice to maximize the effectiveness of the product in formula.

Specific surface of the particles: Not available.

Dustiness: Follow handling recommendations to avoid dust generation.

9.2. Other information

No further relevant information for the safe use of this mixture.

SECTION 10: Stability and reactivity

10.1. Reactivity: No reactive at normal ambient temperatures and when stored, used and transported as recommended.

10.2. Chemical stability: The mixture is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions: No dangerous reactions known under conditions of normal use.

10.4. Conditions to avoid: None under recommended storage and handling conditions(section 7).

10.5. Incompatible materials: Strong oxidizing agents. Strong acids. Strong alkalis.

10.6. Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced. In case of fire, fumes harmful to health may be produced.

SECTION II: Toxicological information

II.1. Information on hazard classes as defined in Regulation (EC) No. 1272/2008

Acute toxicity (oral, dermal, inhalation)

Product: Not classified (Based on available data, the classification criteria are not met).

Main component Titanium dioxide 13463-67-7:

Oral LD50	Dermal LD50	Inhalation LC50
rat: >5000 mg/kg (Method OECD 425)	rabbit: >5000 mg/kg	rat: >6.82 mg/L (4hr) (ECHA (Endpoint Summary))

Component Silicon dioxide 7631-86-9:

Oral LD50	Dermal LD50	Inhalation LC50
rat: >5000 mg/kg (Method OECD 436)	rabbit: >5000 mg/kg (ECHA)	rat: >5.01 mg/L (4hr) (Method OECD 436)

Skin corrosion/ irritation

Product: Not classified (Based on available data, the classification criteria are not met).

Main component: Titanium dioxide 13463-67-7, Not irritant (Method: OECD 404, rabbit).

Component: Silicon dioxide 7631-86-9. Not irritant (Method: OECD 404, rabbit).

Serious eye damage/ irritation

Product: Not classified (Based on available data, the classification criteria are not met). Dust particles may cause (mechanical) irritation.

Main component: Titanium dioxide 13463-67-7, Not irritant (Method: OECD 405, rabbit).

Component: Silicon dioxide 7631-86-9. Not irritant (Method: OECD 405, rabbit).

Respiratory sensitisation

Product: Not classified (Based on available data, the classification criteria are not met).

Main component: Titanium dioxide 13463-67-7, Not sensitizing (Method: OECD 406, 429).

Component: Silicon dioxide 7631-86-9. Not sensitizing (Method: OECD 406, guinea pig).

Skin sensitisation

Product: Not classified (Based on available data, the classification criteria are not met).

Main component: Titanium dioxide 13463-67-7, Not sensitizing (Method: OECD 406, 429).

Component: Silicon dioxide 7631-86-9. Not sensitizing (Method: OECD 406, guinea pig).

Germ Cell Mutagenicity

Product: Not classified (Based on available data, the classification criteria are not met).

Main component: Titanium dioxide 13463-67-7, Not classified (Method: ECHA (Endpoint Summary)).

Component: Silicon dioxide 7631-86-9. Not mutagenic (Method: OECD 471, 476, 473, ECHA).

Carcinogenicity

Product: Not classified (Based on available data, the classification criteria are not met).

Main component: Titanium dioxide 13463-67-7, Not classified (Method: ECHA (Endpoint Summary)). Under review.

Component: Silicon dioxide 7631-86-9. Not classified.

Reproductive Toxicity

Product: Not classified (Based on available data, the classification criteria are not met).

Main component: Titanium dioxide 13463-67-7, Not classified.

Component: Silicon dioxide 7631-86-9. Not classified.

STOT- single exposure

Product: Not classified (Based on available data, the classification criteria are not met).

Main component: Titanium dioxide 13463-67-7. Not classified.

Component: Silicon dioxide 7631-86-9. Not classified.

STOT- repeated exposure

Product: Not classified (Based on available data, the classification criteria are not met).

Main component: Titanium dioxide 13463-67-7, Not classified.

Component: Silicon dioxide 7631-86-9. Not classified.

Aspiration Hazard.

Product: Not classified (Based on available data, the classification criteria are not met).

Main component: Titanium dioxide 13463-67-7, Not classified. Under revision.

Component: Silicon dioxide 7631-86-9. Not classified.

11.2. Information on other hazards

Endocrine disrupting properties: No evidence

Other information: Inhalation of dusts should be avoided. Even inert dusts may impair respiratory organ functions.

SECTION 12: Ecological information

12.1. Toxicity:

Product: No data available.

Main component: Titanium dioxide 13463-67-7.

<i>Cyprinodon variegatus</i> (saltwater fish)	LC50 > 10000 mg/L	Method OECD 203
<i>Pimephales promelas</i> (fresh water fish)	LC50 > 1000 mg/L	Method EPA-540/9-85-006
<i>Acartia tonsa</i> (marine copepod)	LC50 > 10000 mg/L	Method ISO 14669 (1999); ISO 5667-16 (1998)
<i>Daphnia magna</i> (Daphnia)	LC50 > 1000 mg/L	Method OECD 202
<i>Pseudokirchneriella subcapitata</i> (Freshwater algae)	EC50 > 100 mg/L	Method OECD 201
<i>Skeletonema costatum</i> (Diatom)	EC50 > 10000 mg/L	Method ISO 10253
<i>Hyalella azteca</i> (Amphipod crustacean)	NOEC ≥ 100000 mg/kg	Method ASTM 1706

Component Silicon dioxide 7631-86-9

<i>Pimephales promelas</i> (fresh water fish)	LC50 > 5000 mg/L	Method OECD 203
<i>Daphnia magna</i> (Daphnia)	EC50 > 5000 mg/L	Method OECD 202
<i>Desmodesmus subspicatus</i> (green algae)	EC50 _r > 173,1 mg/L	Method OECD 201
Activated sludge,	EC50 > 1000 mg/L	Method OECD 209

12.2. Persistence and degradability:

The product contains only inorganic substances that are not biodegradable. The "persistence" criterion does not apply to inorganic substances as it would apply to organic substances.

12.3. Bioaccumulative potential

Product: Partition coefficient n-octanol/water (Log Kow). Not applicable.

Main component: Titanium dioxide 13463-67-7. Does not accumulate in organisms.

Component: Silicon dioxide 7631-86-9. No data available.

12.4. Mobility in soil

Product: No data available.

Main component: Titanium dioxide 13463-67-7, The substance is immobile in soil.

Component: Silicon dioxide 7631-86-9. No data available.

12.5. Results of PBT and vPvB assessment:

Neither the product nor its components meet the PBT or vPvB criteria of the REACH regulation.

12.6. Endocrine disrupting properties

Neither the product nor its components are identified as endocrine disruptors.

12.7. Other adverse effects:

No further relevant information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods:

Waste must be disposed of in accordance with the Waste Directive 2008/98 / EC, as amended by Directive (EU) 2018/851 of the European Parliament and of the Council, with national, regional and local regulations. Keep the remains in their original containers. Dispose of and handle contaminated containers in the same way as the product. Avoid release to the environment.

SECTION 14: Transport Information

14.1. UN number or ID number

It does not apply (In compliance with ADR, ADN, RID, IMDG, IATA).

14.2. UN proper shipping name

It does not apply (In compliance with ADR, ADN, RID, IMDG, IATA).

14.3. Transport hazard class(es)

It does not apply (In compliance with ADR, ADN, RID, IMDG, IATA).

14.4. Packing group

It does not apply (In compliance with ADR, ADN, RID, IMDG, IATA).

14.5. Environmental hazards

Not dangerous for the environment (In accordance with ADR, ADN, RID, IMDG, IATA).

14.6. Special precautions for user

Not relevant (In accordance with ADR, ADN, RID, IMDG, IATA).

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

It does not contain any substances subject to restrictions according to Annex XVII of REACH.

It does not contain any substances included in the REACH Candidate List.

It does not contain any substances that are listed in REACH Annex XIV.

It does not contain any substance subject to Regulation (EU) No. 649/2012 of the European Parliament and of the Council, of July 4th, 2012, regarding the export and import of dangerous chemical products.

It does not contain any substance subject to Regulation (EU) n° 2019/1021 of the European Parliament and of the Council, of June 20th, 2019, on persistent organic pollutants.

The components of this mixture are listed in the following inventories: EINECS, TSCA, ENCS, AICS, DSL, PICCS, IECSC, KECI.

National legislation (ES): Not dangerous for water.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment (CSA) has been performed for the component: Titanium dicit.

SECTION 16: Other information**Changes compared to previous versions**

All sections revision. Up-date of information relative to the product and components.

Abbreviations and acronyms

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Agreement on the International Transport of Dangerous Goods by Road; AGW: ArbeitsplatzGrenzWerte (Occupational Exposure Limits); AICS - Australian Inventory of Chemical Substances; ASTM - American Society for Testing and Materials; CAS - Chemical Abstracts Service; CMR - Carcinogenic, mutagenic or toxic to reproduction; CLP: Classification, Labelling and Packaging;; CSA - Chemical Safety Assessment; CSR: Chemical Safety Report; DNEL: Derived No Effect Level; DSL - Domestic Substances List (Canada); EC50 - Effective concentration 50%; WWTP - Wastewater Treatment Plant; ECHA - European Chemicals Agency; EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Existing and New Chemical Substances (Japan); EPA - Environmental Protection Agency (USA); FFP2 - Filtering FacePiece 2; GHS - Globally Harmonized System; IATA - International Air Transport Association; IBC - International Code for the construction and equipment of Ships that transport dangerous chemical products in bulk; IC50 - Mean maximum inhibitory concentration; IECSC - Inventory of Chemical Substances (China); IMDG - International Maritime Dangerous Goods Code;; IMO - International Maritime Organization; ISO - International Organization for Standardization; KECI - Korea ExistingChemicals Inventory; LC50 - Lethal concentration for 50% of a population; LD50 - Lethal Dose for 50% of a Population (Median Lethal Dose); LEL - Lower explosion limits; LTEL - Long Term Exposure Limit; MARPOL - International Convention for the Prevention of Pollution at Sea by Ships; NBR - Nitrile Rubber; N.E.P - Not Elsewhere Specified; NOAEC - Unobservable Adverse Effect Concentration; NIOSH - National

Institute for Occupational Safety and Health; NOAEL - Unobservable Adverse Effect Level; OECD - Organization for Economic Cooperation and Development; OSHA - Occupational Safety and Health Administration; PBT - Persistent, bioaccumulative and toxic substance; PICCS - Philippine Inventory of Chemicals and Chemical Substances; PNEC: **Predicted no-effect concentration**; REACH - Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of chemical substances; RID - International Regulations on the Transport of Dangerous Goods by Rail; SDS - Safety Data Sheet; STP: Sewage Treatment Plant; TCSI - Taiwan Chemical Substances Inventory; TLV - Threshold Limit Value; TRGS - Technical Rules for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); TWA - Total Weighted Average; UEL - Upper explosion limits; UN - United Nations; VLA-ED - Daily Exposure Environmental Limit Value (8h shift); VLE - Virtual Learning Environment; VME - Virtual Machine Environment; vPvB - Very persistent and very bioaccumulative.

Key literature references and sources for data

REGULATION (EC) N° 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, of December 16, 2008, on classification, labelling and packaging of substances and mixtures, and by which Directives 67/548 / EEC and 1999/45 / EC and Regulation (EC) No. 1907/2006 is amended. EU SDS format according to Commission Regulation (EU) 2020/878.

Directive 2014/27 / EU of the European Parliament and of the Council, of February 26, 2014, amending Directives 92/58 / EEC, 92/85 / EEC, 94/33 / EC, 98/24 / EC of the Council and Directive 2004/37 / EC of the European Parliament and of the Council, in order to adapt them to Regulation (EC) No. 1272/2008 on classification, labeling and packaging of substances and mixtures.

Advices on any training appropriate for workers to ensure protection of human health and the environment

Consult the safety data sheet before handling or disposal. This mixture should be handled by workers with sufficient practical training and who have the necessary information to do so.

Responsibility:

The information provided in this Safety Data Sheet is the most correct that we have at the date of publication. The information is intended as a guide to safe handling, use, processing, storage, transportation, disposal, and discharge, and should not be construed as a guarantee or specification of quality. The information refers to the specified product: if used in combination with other materials or processed, it may not be valid.

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