SAFETY DATA SHEET **LL-8117 LAUROYL LYSINE TREATED TITANIUM DIOXIDE**

Version: 1/2024 **New: 10/01/2024** **Date Issued: 11/13/2024**

According to Regulation (EC) No 1907/2006,an SDS is not legally required for this product. This SDS is provided voluntarily as a customer service and follows the format outlined in Regulation 1907/2006.

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

1.1 Product identifier

Product name	Lauroyl Lysine Treated Titanium Dioxide
Product code	LL-8117
EC number	236-675-5 (Titanium Dioxide), 257-843-4 (Lauroyl Lysine)
CAS number	13463-67-7 (Titanium Dioxide), 52315-75-0 (Lauroyl Lysine)
Date of issue/Date of revision	11/13/2024
Version	1/2024

REACH Registration Number/Numbers

Titanium Dioxide	01-2119489379-17-0006
Lauroyl Lysine	01-2120769333-51

1.2 Relevant identified uses of the substance or mixture

Recommended uses: personal care applications

Uses advised against: not applicable

1.3 Details of the supplier of the safety data sheet

Manufacturer: Color Techniques, Inc.
260 Ryan Street
South Plainfield, NJ 07080 USA
TELEPHONE: 908-412-9292
EMAIL: mahmoud@colortechniques.com
FAX: 908-412-9339

1.4 Emergency telephone number

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 CCN203590
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

SECTION 2 Possible hazards

2.1 Classification of the substance or mixture

Titanium Dioxide and Lauroyl Lysine are not listed as hazardous substances or mixtures according to Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures.
Based on the aerodynamic diameter measurements available, this product does not meet the requirements for classification as per Regulation 2020/217 (14th ATP to Regulation (EU) 1272/2008, Annex VI).

GHS Classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200:

Not a dangerous substance or mixture

2.2 Label elements

Labelling (Regulation (EC) No. 1272/2008

Not a hazardous substance or mixture

Additional Labelling:

EUH210 Safety data sheet available on request.
EUH212 Warning! Hazardous respirable dust may be formed when used. Do not breath dust.

2.3 Other Hazards

This substance/mixture contains no components considered to be either persistent. Bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose, and throat.

SECTION 3 Composition/information on ingredients

3.1 Substances

n/a

3.2 Mixtures

INGREDIENT NAME	CAS NUMBER	EINECS	COLOUR INDEX
Titanium Dioxide, 97%	13463-67-7	236-675-5	77891, Pigment White 6
Lauroyl Lysine, 3%	52315-75-0	257-843-4	n/a

SECTION 4 First aid measures

4.1 Description of first aid measures

Eyes – flush eyes with plenty of water for at least 15 minutes. Consult a physician of irritation persists.
Skin – wash with soap and water.
Inhalation – remove to fresh air. If breathing is labored or stopped, give artificial respiration. Get immediate medical attention.

Ingestion – if swallowed, dilute with large amounts of water to induce vomiting. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: Dust contact with eyes can lead to mechanical irritation

Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

The product is not irritant but as with all fine powders can absorb moisture and natural oils from the surface of the skin during prolonged exposure.

4.3 Indications of any immediate medical attention and special treatment needed

Treatment: No specific measures identified.

SECTION 5 Firefighting measures

5.1 Extinguishing media

Use extinguishing agent applicable to surrounding fire.

5.2 Special hazards arising from substance or mixture

No unusual fire or spill hazard. Low risk by inhalation.

Hazardous combustion products – none

5.3 Advise for firefighters

Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment to avoid inhalation of dust

6.2 Environmental precautions

Avoid washing into waterways or public water supply.

6.3 Methods and material for containment and cleaning up

Avoid dust formation. Vacuum, sweep, shovel or use wet clean up techniques and place waste material in closed container.

6.4 Reference to other sections

See Section 1 for emergency contact information, Section 8 for appropriate personal protection and Section 13 for additional waste treatment information.

SECTION 7 Handling and storage

7.1 Precautions for safe handling

Handling: good industrial hygiene practice requires that employee exposure be maintained below tlv. This is preferably achieved through the provision of adequate ventilation where necessary. Where dust cannot be controlled in this way, personal respiratory protection should be employed.

7.2 Conditions for safe storage, including any incompatibilities

Storage: store in a clean, dry area at ambient temperature in original unopened containers. Conditions of high humidity may require storage in a controlled environment.

7.3 Specific end use(s)

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SECTION 8 Exposure controls/personal protection

8.1 Control Parameters

Ensure sufficient ventilation. Reduce inhalation hazards

Occupational Exposure Limits

Component	CAS No.	Value Type (Form of Exposure	Control parameters	Basis
Titanium dioxide	13463-76-7	AGW (inhalable fraction)	10 mg/m³ (Titanium Dioxide)	DE TRGS 900
Peak limit: excursion factor (category)	2; (II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values. Commission for dangerous substances, Senate commission for the review of compounds at the workplace dangerous for the health (MAK-commission).			
		AGW (Alveolate fraction)	1.25 mg/m³ (Titanium dioxide)	DE TRGS 900

Derived No Effect (DNEL) according to Regulation (EC) No. 1907/2006

Component	End Use	Exposure routes	Potential health effects	Value
Titanium dioxide		Inhalation		10 mg/m³
Remarks	This material is not classified as hazardous; however, lung irritation may arise from over exposure from any dust in the workplace. The DNEL has been derived to prevent lung irritation effect as an additional safety factor to protect workers handling the material.			

8.2 Exposure controls

Engineering measures Ensure adequate ventilation, primarily in confined areas

Personal Protection Equipment

Industrial hygiene measures: Maintain exposures below applicable exposure limits:

Respiratory protection: A respirator must be used if the dust concentration is likely to exceed the occupational exposure limit. At higher concentrations wear particle filter DIN EN 143-P2.

Hand protection: Prolonged exposure should be avoided by wearing suitable protective gloves and clothing.

Eye protection: The use of an approved dustproof goggles is recommended if the dust concentration is likely to exceed the occupational exposure limit.

Skin protection: TiO_2 pigments are not irritant but as with all fine powders can adsorb moisture and natural oils from the surface of the skin during prolonged exposure. Prolonged exposure should be avoided by wearing suitable protective gloves and clothing.

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a) Physical state	solid **(**powder)
(b) Colour	white
(c) Odour	none
(d) Melting point/freezing point	>1,800°C
(e) Boiling point	not applicable
(f) Flammability	non-flammable
(g) Lower and upper explosion limit	not available
(h) Flash point	not applicable
(i) Auto-ignition temperature	not applicable
(j) Decomposition temperature	not applicable
(k) pH	not applicable
(l) Kinematic viscosity	not applicable
(m) Solubility	Insoluble in water
(n) Partition coefficient-octanol/water (log value)	not applicable
(o) Vapor pressure	not applicable
(p) Density and/or relative density	no data is available
(q) Relative vapour density	not applicable
(r) Particle characteristics	MV(um) 2.147 by laser diffraction

9.2 Other information

(s) Evaporation rate: Based on available data, none are known.

(t) Explosive properties: Based on available data, none are known.

(u) Oxidizing properties: Based on available data, none are known.

SECTION 10 Stability and reactivity

10.1 Reactivity

Conditions to avoid: none

10.2 Chemical Stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

None

10.4 Conditions to avoid

None

10.5 Incompatible materials

None known

10.6 Hazardous decomposing products

No hazardous decomposition products known

SECTION 11 Toxicological information

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

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended

(a) Acute toxicity: LD_{50} (rats, oral) > 5,000 mg/kg
Methods: OECD Test Guideline 425
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity: LC_{50} (Rat) :> 6.8 mg/l
Exposure time: 4 hrs
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity.

Acute dermal toxicity: LD_{50} (rabbit) > 10,000 mg/kg

Acute toxicity (other routes of administration): No data available

(b) Skin corrosion/irritation Species: Rabbit
Assessment: No skin irritation
Method: OECD Test Guideline 404
Result: Normally reversible injuries

(c) Serious eye damage/eye irritation: Species: Rabbit
Assessment: No eye irritation
Method: OECD Test Guideline 405
Result: Normally reversible injuries

(d) Respiratory or skin sensitization: Test type; Local lymph node assay (LLNA)
Exposure routes: skin
Species: mouse
Assessment: Does not cause skin sensitization
Method: OECD Test Guideline 429
Result: Does not cause skin sensitization.

Exposure routes: skin
Species: guinea pig
Assessment: Does not cause skin sensitization.
Method: OECD Test Guideline 406
Result: Does not cause skin sensitization.

Assessment: No skin irritation. No eye irritation.
Does not cause skin sensitization. Does not cause respiratory sensitization

(e) Germ cell mutagenicity

Genotoxicity in vitro: Test type: Ames test
Concentration: 100-200 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test type: In vitro mammalian cell gene mutation test
Concentration: 31-500 ug/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Test type: Chromosome aberration test in vitro
Concentration: 125-2500 ug/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo: Test type: Micronucleus test
Test species: mouse(males)
Application Route: Inhalation
Exposure time: 5 consecutive days
Dose: 0.8,7.2, and 28.5 mg/m^3
Method: OECD Test Guideline 474
Result: negative

Germ cell Mutagenicity-Assessment
Tests on mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects.
Germ cell Mutagenicity-Assessment: No data available

(f) Carcinogenicity

Species: Rat (male & female)
Application Route: Oral
Exposure time: 103 weeks
Dose: 0, 25000, 50000 ppm
Frequency of Treatment: 7 days/week
No observed adverse effect level: >50,000 ppm
Method: No information available
Remarks: Titanium Dioxide: based on the results of chronic inhalation studies (with positive results only in a single species-rat), IARC has concluded that: "There is inadequate evidence in humans for the carcinogenicity of titanium dioxide. but that: "There is sufficient evidence in experimental animals for carcinogenicity of titanium dioxide". IARCs overall evaluation was the "titanium dioxide is possibly carcinogenic to humans (Group 2B)."

Our raw material supplier has examined all of the available animal carcinogenicity and mechanistic data and concludes that the weight of the scientific evidence indicates that there is no causative link between titanium dioxide exposure and cancer risk in humans and that workplace exposure in compliance with applicable exposure standards will not result in lung cancer or chronic respiratory disease in humans.

Carcinogenicity-Assessment: Not classified as a human carcinogen.

(g) Reproductive toxicity

Effects on fertility No data available

Effects on foetal Development: Species: Rat (male & female)
Application Route: Oral
Dose: 100,300, and 1000mg/kg bw/
Duration of Single Treatment: 20 d
Frequency of Treatment: 7 days/week
General Toxicity Maternal: No observed adverse effect level: 1000 mg/kg body weight
Developmental Toxicity: No observed adverse effect level: 1000 mg/kg body weight
Method: OECD Test Guideline 414
Result: No adverse effects

Reproductive toxicity-Assessment: No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

(h) STOT – single exposure: No data available

(i) STOT-repeated exposure: No data available

Repeated dose toxicity: Species: Rat (male & female) :3500
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 2, number of exposures: 5 d
Method: Chronic toxicity
Species: Rat (male & female): 10-50
Application Route: Inhalation
Exposure time: 2yrNumber of exposures: 6 hours/day, 5 days/week
Method: Chronic toxicity
Repeated dose toxicity- Assessment: No skin irritation, No eye irritation. No Adverse effect has been observed in chronic toxicity tests.

(j) Aspiration toxicity

No data available

General Information	No data available
Inhalation	No data available
Skin contact	No data available
Eye contact	No data available
Ingestion	No data available

11.2 Information on other hazards

Toxicology, Metabolism, Distribution: No data available
Neurological effects: No data available
Further information: Ingestion No data available

SECTION 12 Ecological information

12.1 Toxicity

Aquatic toxicity	Fish LC_{50} (Cyprinodon variegatus (sheepshead minnow)): > 10000 mg/l
Plant toxicity	NOEC: 100 000 mg/kg Exposure time: 480 h
Sediment toxicity	> 100000 mg/kgsedimentdw Study: Acute Test type: Semi-static test Water: Fresh water Exposure duration: 28 d Species: Gammarus pulex (Amphipod) Method: ASTM Method, other 100000 mg/kgsedimentdw Study: Chronic Test type: semi-static test Water: Fresh Exposure duration: 28 d Species: Gammarus pulex (Amphipod) Method: ASTM Method, other 14989 mg/kgsedimentdw Study: Acute Test type: semi-static test Water: Marine water Exposure duration: 10 d Species: Gammarus pulex (Amphipod)
Toxicity to terrestrial organisms	NOEC: 10 000 mg/kg Exposure time: 672 h

12.2 Persistence and degradability

Methods for the determination of biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Bioaccumulation	Species: Oncorhynchus mykiss (rainbow trout) Exposure time: 14 d Bioconcentration factor (BCF): 19-352 Test substance: Fresh water Method: semi-static test Remarks: Does not bioaccumulate.

12.4 Mobility in soil

Soil/water partition coefficient (Koc)

No data

12.5 Results of PBT and vPvB assessment

Assessment: This substance/mixture contains no components considered to be either persistent, bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Not available

12.7 Other adverse effects

Absorbed organic bound halogens (AOX) Remarks: Product does not contain any organic halogens

SECTION 13 Disposal considerations

13.1 Waste treatment methods

The product should not be allowed to enter drains, water courses or the soil. This material and its container must be disposed of in a safe way in accordance with local and national regulations

Contaminated packaging: Containers that cannot be cleaned must be treated as waste and disposed of in an approved industrial incineration facility. The empty and clean containers may be reused in conformity with regulations.

Dangerous wastes: Based upon available data, the product is not regarded as hazardous waste. EWL code 06 11 99.

SECTION 14 Transportation information

	DOT (USA)	IMDG	IATA
14.1 UN number	Not dangerous goods	Not dangerous goods	Not dangerous goods

14.2 UN proper shipping name
Not dangerous goods
14.3 Transport hazard class
Not dangerous goods -
14.4 Packing group
Not dangerous goods
14.5 Environmental hazards

	No	No	No

14.6 Special precautions for user
Not classified as hazardous and not regulated
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

SECTION 15 Regulatory information

15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture
REACH- Candidate List of Substances
of Very High Concern for Authorisation
(Article 59). This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57
Seveso III: Directive 2012/18/EU of the European Parliament and the Council on the control of major-accident hazards involving dangerous substances.: Not Applicable
Waste hazard class (Germany) nwg not water endangering Code Number: 1 345

TA Luft List (Germany)
Total Dust: Not applicable
Inorganic substances in powdered form: Not applicable
Inorganic substances in vapour or gaseous form: Not applicable
Organic substances: Not applicable
Carcinogenic substances: Not applicable
Mutagenic: Not applicable
Toxic to reproduction: Not applicable

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

AIIC (Australia)
DSL (Canada)
IECSC (China)
REACH (European Union)
TECI (Taiwan)
ENCS (Japan)
ISHL (Japan)
METI (Japan)
KECI (Korea)
NZIoC (New Zealand)
PICCS (Philippines)
TCSI (Taiwan)
TSCA (USA)

15.2 Chemical safety assessment
The substance has undergone a safety assessment and are either Complete or Not applicable

SECTION 16 Other information

NFPA 704:		HMIS Ratings:	
Health	1	Health	1
Flammability	0	Flammability	0
Reactivity	0	Reactivity	0
Personal Protection	E – Glasses, Gloves, Dust Resp.		

GHS Classification:
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)
HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks.

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
N/A: Not available
EUH statement: CLP-specific Hazard statement
PBT: Persistent, Bioaccumulative and Toxic
PNEC: Predicted No Effect Concentration
RRN: Reach Registration Number
SGG: Segregation Group
vPvB: Very Persistent and Very Bioaccumulative

Key literature references/data sources: ECHA database
Full text of abbreviated H statements: Not applicable
Full text of classifications {CLP/GHS]: Not applicable
Advise of the training of workers: None
Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]: Not classified
Revision and update of this Safety Data Sheet: New product sds. The manufacturer revises this sds if new information with influence on risk assessment is available or permitting/restriction is given.
Changes against the last edition to this Safety date sheet: New product sds

Disclaimer:
The information provided in this Safety Data Sheet is correct to the best of our knowledge with current data available at the date of publication. Such information is offered solely for your consideration, investigation, and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones, which exist. Color Techniques Inc. makes no warranty, expressed or implied, with respect to the use of such information and assumes no responsibility, therefore. Information on this safety data sheet is not intended to constitute a basis for product specification.

END OF SDS