

CYASORB® UV-2908 LIGHT STABILIZER

Revision Date 02/11/2019

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

- Trade name CYASORB® UV-2908 LIGHT STABILIZER

1.2 Relevant identified uses of the substance or mixture and uses advised against**Uses of the Substance / Mixture**

- Plastic additive

1.3 Details of the supplier of the safety data sheet**Company**

CYTEC CANADA INC.
9061 Garner Road, Niagara Falls,
Ontario, Canada L2H 0Y2
Tel: +1-905-356-9000

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

Disclaimer

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SECTION 2: Hazards identification

Although WHMIS has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects

2.1 Classification of the substance or mixture**Hazardous Products Regulations (WHMIS 2015)**

Combustible dust, Category 1

May form combustible dust concentrations in air.

2.2 Label elements**Hazardous Products Regulations (WHMIS 2015)****Signal Word**

- Warning

Hazard Statements

- May form combustible dust concentrations in air.

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2.3 Other hazards which do not result in classification

- Risk of dust explosion.
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

SECTION 3: Composition/information on ingredients**3.1 Substance**

- Chemical nature 3,5-di-[t-butyl]-4-hydroxybenzoic acid, hexadecyl ester

WHMIS Hazardous Ingredients and Impurities

- No ingredients are hazardous.

3.2 Mixture

Not applicable, this product is a substance.

SECTION 4: First aid measures**4.1 Description of first-aid measures****In case of inhalation**

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

In case of skin contact

- Use appropriate protective equipment when treating a contaminated person.

In case of eye contact

- Rinse with running water whilst keeping the eyes wide open.

In case of ingestion

- Do NOT induce vomiting.
- Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed**Effects**

- No hazards to be specially mentioned.
- Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.
- Risk of nose bleeding
- Irritating to mucous membranes

Repeated or prolonged exposure

- Contact with dust can cause mechanical irritation or drying of the skin.
- Dust contact with the eyes can lead to mechanical irritation.
- Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- Mechanical irritation from the particulates generated by the product.

Symptoms

- At high concentrations:
- slight irritation
- Cough

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- Redness
- Redness of the conjunctiva

4.3 Indication of any immediate medical attention and special treatment needed**Notes to physician**

- When symptoms persist or in all cases of doubt seek medical advice.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

- Water spray
- Foam
- Carbon dioxide (CO₂)
- Multipurpose powders

Unsuitable extinguishing media

- High volume water jet

5.2 Special hazards arising from the substance or mixture

- Risk of dust explosion.
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
- Under fire conditions:
- Will burn
- On combustion, toxic gases are released.

5.3 Advice for firefighters**Special protective equipment for fire-fighters**

- In the event of fire, wear self-contained breathing apparatus.
- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
- For further information refer to section 8 "Exposure controls / personal protection."

Specific fire fighting methods

- Do not use a solid water stream as it may scatter and spread fire.

Further information

- Standard procedure for chemical fires.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

- Where exposure level is not known, wear approved, positive pressure, self-contained respirator.
- Where exposure level is known, wear approved respirator suitable for level of exposure.
- For further information refer to section 8 "Exposure controls / personal protection."

6.2 Environmental precautions

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- Prevent further leakage or spillage if safe to do so.
- Contain the spilled material by diking.
- Do not let product enter drains.
- Do not allow uncontrolled discharge of product into the environment.

6.3 Methods and materials for containment and cleaning up

- Stop leak if safe to do so.
- Avoid dust formation.
- Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
- Sweep up and shovel into suitable containers for disposal.
- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.
- After cleaning, flush away traces with water.
- Recover the cleaning water for subsequent disposal.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.
- Dispose of in accordance with local regulations.
- Never return spills in original containers for re-use.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

- Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
- Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations.
- Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.
- Eye wash bottles or eye wash stations in compliance with applicable standards.

7.2 Conditions for safe storage, including any incompatibilities**Technical measures/Storage conditions**

- Ensure all equipment is electrically grounded before beginning transfer operations.

Requirements for storage rooms and vessels

Recommended storage temperature: 68 °F (20 °C)

- Keep containers tightly closed in a cool, well-ventilated place.
- To guarantee the quality and properties of the product keep according to Storage temperature and conditions.

7.3 Specific end use(s)

- no data available

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SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

- Contains no substances with occupational exposure limit values.

8.2 Exposure controls**Control measures****Engineering measures**

- Provide appropriate exhaust ventilation at places where dust is formed.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures**Respiratory protection**

- Keep in a well-ventilated place.
- Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).

Hand protection

- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Impervious gloves

Eye protection

- Dust proof goggles, if dusty.
- Eye wash bottles or eye wash stations in compliance with applicable standards.

Skin and body protection

- Dust impervious protective suit

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.
- Eye wash bottles or eye wash stations in compliance with applicable standards.

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SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	<u>Form:</u> powder <u>Physical state:</u> solid <u>Color:</u> white to off-white <u>Particle size:</u> 70 µm , d 50
<u>Odor</u>	odorless
<u>Odor Threshold</u>	No data available
<u>Molecular weight</u>	474.82 g/mol
<u>pH</u>	Not applicable
<u>Melting point/freezing point</u>	<u>Melting point/range:</u> 141.4 °F (60.8 °C)
<u>Initial boiling point and boiling range</u>	<u>Boiling point/boiling range:</u> 634.8 °F (334.9 °C) Method: Differential Scanning Calorimetry (DSC)
<u>Flash point</u>	Not applicable
<u>Evaporation rate (Butylacetate = 1)</u>	Not applicable
<u>Flammability (solid, gas)</u>	May form combustible dust concentrations in air.
<u>Flammability / Explosive limit</u>	<u>Upper flammability/explosion limit:</u> Type: Upper flammability limit The product is not flammable., Expert judgment
<u>Autoignition temperature</u>	Not applicable
<u>Vapor pressure</u>	0.00004 mmHg (0.00005 hPa) (68 °F (20 °C)) Method: Thermogravimetry Analysis (TGA)
<u>Vapor density</u>	Not applicable
<u>Density</u>	0.262 g/ml
<u>Relative density</u>	No data available

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SolubilityWater solubility:

< 10 µg/l (68 °F (20 °C)) Method: OECD Test Guideline 105

Partition coefficient: n-octanol/water

log Pow: ca. 12.3

Method: Estimation method / Structure-activity relationship (SAR)

Decomposition temperature

No data available

ViscosityViscosity, dynamic : Not applicableViscosity, kinematic : Not applicable**Explosive properties**

No data available

Oxidizing properties

No data available

9.2 Other information**Surface tension**

72.5 mN/m 1 mg/l (68 °F (20 °C))

Dust explosion constant

203 m.bar/s

Maximum Pressure: 7.3 bar

Particle size < 75µm

Minimum ignition energy

1 - 3 mJ

SECTION 10: Stability and reactivity**10.1 Reactivity**

- no data available

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- no data available

10.4 Conditions to avoid

- Store in a dry place, in tightly sealed containers.

10.5 Incompatible materials

- Strong oxidizing agents

10.6 Hazardous decomposition products**Hazardous decomposition products**

- Carbon monoxide
- Carbon dioxide (CO₂)

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SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity****Acute oral toxicity**

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

LD50 : > 2,000 mg/kg - Rat , female
 Method: OECD Test Guideline 423
 Not classified as hazardous for acute oral toxicity according to GHS.
 No mortality observed at this dose.
 Unpublished internal reports

Acute inhalation toxicity

No data available

Acute dermal toxicity

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

LD50 : > 2,000 mg/kg - Rat , male and female
 Method: OECD Test Guideline 402
 Not classified as hazardous for acute dermal toxicity according to GHS.
 No mortality observed at this dose.
 Unpublished internal reports

Acute toxicity (other routes of administration)

No data available

Skin corrosion/irritation

Rabbit
 No skin irritation
 Method: OECD Test Guideline 404
 Published data

Serious eye damage/eye irritation

Rabbit
 No eye irritation
 Method: OECD Test Guideline 405
 Published data

Respiratory or skin sensitization

Local lymph node assay - Mouse
 Does not cause skin sensitization.
 Published data

Mutagenicity**Genotoxicity in vitro**

Ames test
 Strain: Salmonella typhimurium
 negative
 Published data

Mouse lymphoma test / TK
 Strain: L5178Y cells
 negative
 Published data

Genotoxicity in vivo

In vivo micronucleus test - Mouse
 negative
 Published data

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Carcinogenicity

No data available

This product does not contain any ingredient designated as probable or suspected human carcinogens by:
ACGIH

Toxicity for reproduction and development**Toxicity to reproduction / fertility**

Rat, male and female,
General Toxicity Parent NOEL: 50,000 ppm
Fertility NOEL: 50,000 ppm
in feed, Published data

Developmental Toxicity/Teratogenicity

Rat, male and female,
Test period: 18 Weeks
Teratogenicity NOEL: 50,000 ppm
Developmental Toxicity NOEL: 50,000 ppm
Embryo-fetal toxicity. NOEL: 50,000 ppm
in feed, Published data

STOT**STOT-single exposure**

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

Routes of exposure: Ingestion, Skin contact
The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.

STOT-repeated exposure

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

Routes of exposure: Ingestion
The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.

oral (feed) Subchronic exposure 91 Days - Dog
NOAEL: 1000 mg/kg bw/day

oral (feed) Subchronic exposure 91 Days - Rat
NOAEL: 5000 ppm

Experience with human exposure

No data available

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CMR effects**Mutagenicity**

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

Not classified as mutagen according to GHS criteria.

Teratogenicity

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

Not classified as toxic for the reproduction (development) according to GHS criteria

Reproductive toxicity

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

Not classified as toxic for the reproduction (fertility and/or development) according to GHS criteria

Aspiration toxicity

No data available

SECTION 12: Ecological information**12.1 Toxicity****Aquatic Compartment****Acute toxicity to fish**

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

LC50 - 96 h : > 0.00045 mg/l - Cyprinus carpio (Carp)
static test
Analytical monitoring: yesTest substance: At saturation in water
Method: OECD Test Guideline 203
No toxicity at the limit of solubility.
Freshwater species
Unpublished internal reports

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Acute toxicity to daphnia and other aquatic invertebrates

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

EC50 - 48 h : > 0.0025 mg/l - Daphnia magna (Water flea)
static test
Analytical monitoring: yes
Test substance: At saturation in water
Method: OECD Test Guideline 202
No toxicity at the limit of solubility.
Freshwater species
Unpublished internal reports

Toxicity to aquatic plants

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

ErC50 - 72 h : > 0.0025 mg/l - Pseudokirchneriella subcapitata (green algae)
static test
Analytical monitoring: yes
Endpoint: Growth rate
Test substance: At saturation in water
Method: OECD Test Guideline 201
No toxicity at the limit of solubility.
Freshwater species
Unpublished internal reports

NOErC - 72 h : 0.0025 mg/l - Pseudokirchneriella subcapitata (green algae)
static test
Analytical monitoring: yes
Endpoint: Growth rate
Test substance: At saturation in water
Method: OECD Test Guideline 201
No toxicity at the limit of solubility.
Freshwater species
Unpublished internal reports

Toxicity to microorganisms

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

activated sludge
static test
Endpoint: Respiration inhibition

EL50 - 3 h : > 1,000 mg/l

NOELR - 3 h : 1,000 mg/l

Test substance: At saturation in water
Method: OECD Test Guideline 209
Freshwater species
Result expressed in nominal loading rate (product tested as a saturated solution or as a WAF/WSF)
Unpublished internal reports

Chronic toxicity to fish

No data available

Chronic toxicity to daphnia and other aquatic invertebrates

No data available

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12.2 Persistence and degradability

Abiotic degradation**Stability in water**

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

Not applicable, insoluble product,

Physical- and photo-chemical elimination

No data available

Biodegradation**Biodegradability**

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

Ready biodegradability study:
Method: OECD Test Guideline 301C
0 % - 28 DaysThe substance does not fulfill the criteria for ready biodegradability and ultimate aerobic biodegradability
Theoretical oxygen demand
Unpublished internal reportsUltimate aerobic biodegradability
Method: OECD Test Guideline 307
- 121 Days
Half-life value: 117 Days
Product is not persistent.
Unpublished internal reports**Degradability assessment**

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

The product is not considered to be rapidly degradable in the environment

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

No data available

Bioconcentration factor (BCF)

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 15
Exposure time: 60 Days
Temperature: 25 °C
Concentration: 0.38 mg/l
Method: OECD Test Guideline 305
Accumulation in aquatic organisms is unlikely.
Unpublished internal reports

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12.4 Mobility in soil

Adsorption potential (Koc)

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

Adsorption

Soil

Koc: > 427000

Log Koc: > 5.63

Method: OECD Test Guideline 121

Immobile in soils

Unpublished internal reports

Known distribution to environmental compartments

No data available

12.5 Results of PBT and vPvB assessment

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

This substance is not considered to be persistent, bioaccumulating, and toxic (PBT).

This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

Ecotoxicity assessment

Short-term (acute) aquatic hazard

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

No toxicity at the limit of solubility.

Long-term (chronic) aquatic hazard

Benzoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, hexadecyl ester

No toxicity at the limit of solubility.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- The Company encourages the recycle, recovery and reuse of materials, where permitted. If disposal is necessary, The Company recommends that organic materials, especially when classified as hazardous waste, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

SECTION 14: Transport information**TDG**

not regulated

DOT

not regulated

NOM

PRCO90072797

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not regulated

IMDG

not regulated

IATA

not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information**15.1 Notification status**

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	- When purchased from a European Solvay legal entity, this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of Europe, please contact your local representative for additional information.
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- On the inventory, or in compliance with the inventory

15.2 National Regulations**Canada. CEPA 1999 Significant New Activity (SNAc) List:**

- No substances are subject to a Significant New Activity Notification.

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SECTION 16: Other information**Revision Date:**

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NFPA (National Fire Protection Association) - Classification

Health	1 slight
Flammability	2 moderate
Instability or Reactivity	0 minimal

Further information

- Distribute new edition to clients
- Update
- See section 2
- See section 3
- ACGIH American Conference of Governmental Industrial Hygienists
- OSHA Occupational Safety and Health Administration
- NTP National Toxicology Program
- IARC International Agency for Research on Cancer
- NIOSH National Institute for Occupational Safety and Health

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.