

CYANOX® 1790 ANTIOXIDANT

Revision Date 05/10/2018

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

- Trade name CYANOX® 1790 ANTIOXIDANT

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.

Trademark disclaimer

The ® indicates a Registered Trademark in the United States and the ™ indicates a trademark in the United States. The mark may also be registered, subject of an application for registration, or a trademark in other countries.

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.

2.3 Other hazards which do not result in classification

- H413: May cause long lasting harmful effects to aquatic life.
- 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 1,3,5-tris(4-t-butyl-3-hydroxy-2,6-dimethylbenzyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trion

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
- Redness
- Redness of the conjunctiva

CYANOX® 1790 ANTIOXIDANT

Revision Date 05/10/2018

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

- 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.

Dust explosion class

- St3

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: $\leq 77^{\circ}\text{F}$ ($\leq 25^{\circ}\text{C}$)

- Keep in a dry, cool place.
- Keep away from direct sunlight.
- 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

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 above their regulatory reporting threshold.

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.

CYANOX® 1790 ANTIOXIDANT

Revision Date 05/10/2018

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>	Form: powder Physical state: solid Color: off-white Particle size: 86 µmd 50 < 25 µmd 10 > 143 µmd 90
<u>Odor</u>	odorless
<u>Odor Threshold</u>	No data available
<u>Molecular weight</u>	699 g/mol
<u>pH</u>	Not applicable
	<u>pKa:</u> Not applicable
<u>Melting point/freezing point</u>	<u>Melting point/range:</u> 316.2 °F (157.9 °C)
<u>Initial boiling point and boiling range</u>	<u>Boiling point/boiling range:</u> > 700 °F (> 371 °C)
<u>Flash point</u>	529 °F (276 °C) Seta closed cup
<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.
<u>Autoignition temperature</u>	819 °F (437 °C) Method: ASTM E 659
<u>Vapor pressure</u>	0.0000007 mmHg (0.0000009 hPa) (68 °F (20 °C)) Method: Thermogravimetry Analysis (TGA)
<u>Vapor density</u>	Not applicable
<u>Density</u>	0.61 g/cm3 (76.3 °F (24.6 °C))
	<u>Bulk density:</u> 0.61 g/ml (76.3 °F (24.6 °C))
<u>Relative density</u>	No data available

CYANOX® 1790 ANTIOXIDANT

Revision Date 05/10/2018

Solubility

Water solubility:
< 0.02 mg/l (68 °F (20 °C)) Method: OECD Test Guideline 105

Partition coefficient: n-octanol/water

log Pow: 15.3 (68 °F (20 °C))
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**

Not applicable

Dust explosion constant

344 m.bar/s
Maximum Pressure: 7.5 bar
Particle size < 75µm
St3

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

- no data available

10.5 Incompatible materials

- Mineral acids.
- Strong oxidizing agents

10.6 Hazardous decomposition products**Hazardous decomposition products**

- Carbon dioxide (CO₂)
- Hydrogen cyanide (hydrocyanic acid)
- Nitrogen oxides (NO_x)
- Ammonia
- Carbon monoxide

CYANOX® 1790 ANTIOXIDANT

Revision Date 05/10/2018

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity****Acute oral toxicity** No data available**Acute inhalation toxicity** No data available**Acute dermal toxicity** No data available**Acute toxicity (other routes of administration)** No data available**Skin corrosion/irritation** No data available**Serious eye damage/eye irritation** No data available**Respiratory or skin sensitization** No data available**Mutagenicity****Genotoxicity in vitro** No data available**Genotoxicity in vivo** No data available**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** No data available**Developmental Toxicity/Teratogenicity** No data available**STOT****STOT-single exposure** No data available**STOT-repeated exposure** No data available**Experience with human exposure** No data available**Aspiration toxicity** No data available

SECTION 12: Ecological information**12.1 Toxicity****Aquatic Compartment**

Acute toxicity to fish No data available

Acute toxicity to daphnia and other aquatic invertebrates No data available

Toxicity to aquatic plants No data available

Toxicity to microorganisms No data available

Chronic toxicity to fish No data available

Chronic toxicity to daphnia and other aquatic invertebrates No data available

12.2 Persistence and degradability

Abiotic degradation No data available

Physical- and photo-chemical elimination No data available

Biodegradation No data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water No data available

Bioconcentration factor (BCF) No data available

12.4 Mobility in soil

Adsorption potential (Koc) No data available

Known distribution to environmental compartments No data available

12.5 Results of PBT and vPvB assessment Not classified as PBT substance.

CYANOX® 1790 ANTIOXIDANT

Revision Date 05/10/2018

12.6 Other adverse effects

No data available

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

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.

CYANOX® 1790 ANTIOXIDANT

Revision Date 05/10/2018

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

Inventory Information	Status
United States TSCA Inventory	- Listed on Inventory
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
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, pre-registered and/or registered. When purchased from a legal entity outside of Europe, please contact your local representative for additional information.

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

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

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

05/10/2018

NFPA (National Fire Protection Association) - Classification

Health	1 slight
Flammability	3 serious
Instability or Reactivity	0 minimal

- ACGIH American Conference of Governmental Industrial Hygienists
- OSHA Occupational Safety and Health Administration
- NTP National Toxicology Program
- IARC International Agency for Research on Cancer

PRCO90072789

Version : 1.02 / CA (Z8)

www.solvay.com



CYANOX® 1790 ANTIOXIDANT

Revision Date 05/10/2018

- 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.