Eastman Tenox(TM) TBHQ Food Grade Antioxidant, Kosher

Version	Revision Date:	SDS Number:	Date of last issue: 07/25/2019
1.3	07/25/2019	150000100729	Date of first issue: 09/06/2016
PRD		SDSUS / Z8 / 0001	

SECTION 1. IDENTIFICATION

Product name : Eastman Tenox(TM) TBHQ Food Grade Antioxidant, Kosher

Product code : 03793-0N, P03793NM

Manufacturer or supplier's details

Company name of supplier : Eastman Chemical Company

Address : 200 South Wilcox Drive
Kingsport TN 37660-5280

Telephone : (423) 229-2000

Emergency telephone : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use

Recommended use : antioxidant (food grade)

Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Combustible dust

Acute toxicity (Oral) : Category 4

Acute toxicity (Dermal) : Category 4

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitization : Category 1

GHS label elements

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H302 + H312 Harmful if swallowed or in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.
If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

Precautionary Statements :

Prevention:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water.Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Concentration (% w/w)
2-tert-butylhydroquinone	1948-33-0	100

SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.
Treat symptomatically.
If symptoms persist, call a physician.

In case of skin contact : Wash off with soap and plenty of water.
Wash contaminated clothing before re-use.
Get medical attention.

Thoroughly clean shoes before reuse.

In case of eye contact : Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.

If swallowed : Seek medical advice.

Most important symptoms and effects, both acute and delayed : Harmful if swallowed or in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.

Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO2)
Dry chemical
Water spray

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
Do NOT use water jet.

Specific hazards during fire fighting : None known.

Further information : None known.

Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear appropriate personal protective equipment.
Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions : Avoid release to the environment.

Methods and materials for containment and cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	None known.
Advice on safe handling	:	Avoid breathing dust. Do not get in eyes. Avoid contact with skin, eyes and clothing. Do not swallow. Ensure adequate ventilation. Wash thoroughly after handling.
Conditions for safe storage	:	Keep tightly closed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	Good general ventilation (typically 10 air changes per hour) should be sufficient to control airborne levels. Ensure adequate ventilation.

Personal protective equipment

Respiratory protection	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Hand protection		
Remarks	:	Wear suitable gloves.
Eye protection	:	Wear safety glasses with side shields (or goggles). Face-shield Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.
Protective measures	:	Remove respiratory and skin/eye protection only after vapors have been cleared from the area. Ensure that eye flushing systems and safety showers are located close to the working place. Use personal protective equipment as required.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	solid
Color	:	white

Odor	:	slight
Odor Threshold	:	not determined
pH	:	not determined
Melting point/range	:	259.7 - 263.3 °F / 126.5 - 128.5 °C
Boiling point/boiling range	:	563 °F / 295 °C
Flash point	:	340 °F / 171 °C Method: Cleveland open cup
Evaporation rate	:	not determined
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Vapor pressure	:	not determined
Relative vapor density	:	not determined
Relative density	:	1.05 (68 °F / 20 °C)
Solubility(ies)		
Water solubility	:	Moderate
Partition coefficient: n-octanol/water	:	Pow: 33 log Pow: 1.52
Autoignition temperature	:	855 °F / 457 °C Method: ASTM D2155
Decomposition temperature	:	Method: DTA No exotherm to 400°C
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	not determined
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Dust deflagration index (Kst)	:	375 m.b_/s
Dust explosion class	:	St 3 - very strong explosion

Minimum ignition energy : 3 - 5 mJ

SECTION 10. STABILITY AND REACTIVITY

Reactivity : None reasonably foreseeable.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : None known.
Stable

Conditions to avoid : None known.

Incompatible materials : Strong oxidizing agents

Hazardous decomposition products : Carbon dioxide (CO2)
Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed or in contact with skin.

Product:

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

Components:

2-tert-butylhydroquinone:

Acute oral toxicity : LD50 Oral (Rat, male): 951 mg/kg

LD50 Oral (Rat, female): 1,131 mg/kg

Acute dermal toxicity : LD50 Dermal (Guinea pig): > 1,000 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Product:

Remarks : No data available

Components:

2-tert-butylhydroquinone:

Species	:	Guinea pig
Exposure time	:	24 h
Result	:	slight

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Remarks	:	No data available

Components:

2-tert-butylhydroquinone:

Species	:	Rabbit
Result	:	irritating

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks	:	No data available

Components:

2-tert-butylhydroquinone:

Test Type	:	Skin Sensitization
Species	:	Guinea pig
Result	:	slight

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Product:

Remarks	:	This information is not available.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Product:

Effects on fertility : Remarks: No data available

STOT-single exposure

Not classified based on available information.

Product:

Remarks : No data available

STOT-repeated exposure

Not classified based on available information.

Product:

Remarks : No data available

Aspiration toxicity

Not classified based on available information.

Product:

No data available

Information on likely routes of exposure

Product:

Inhalation : Remarks: None known.

Skin contact : Remarks: Harmful in contact with skin.
Causes skin irritation.
May cause an allergic skin reaction.

Eye contact : Remarks: Causes serious eye irritation.

Ingestion : Remarks: Harmful if swallowed.

Further information

Product:

Remarks : None known.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2-tert-butylhydroquinone:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 0.6 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 3.2 mg/l Exposure time: 96 h

Persistence and degradability

Product:

Biochemical Oxygen Demand (BOD)	:	BOD-5: 70 mg/g Concentration: 5 mg/l
	:	BOD-20: 2,000 mg/g Concentration: 2.0 mg/l
Chemical Oxygen Demand (COD)	:	2,200 mg/g
ThOD	:	2,450 mg/g

Components:

2-tert-butylhydroquinone:

Biodegradability	:	Concentration: 20 mg/l Biodegradation: 19 % Exposure time: 28 d
Biochemical Oxygen Demand (BOD)	:	BOD-5: 70 mg/g
		BOD-20: 2,000 mg/g
Chemical Oxygen Demand (COD)	:	2,200 mg/g
ThOD	:	2,450 mg/g

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	UN 3077
Proper shipping name	:	Environmentally hazardous substance, solid, n.o.s. (2-tert-butylhydroquinone)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	956
Packing instruction (passenger aircraft)	:	956

IMDG-Code

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-tert-butylhydroquinone)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

Not regulated as a dangerous good

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Combustible dust
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

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

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

ISHL : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

TCSI : On the inventory, or in compliance with the inventory

TSCA : On the inventory, or in compliance with the inventory

TSCA list

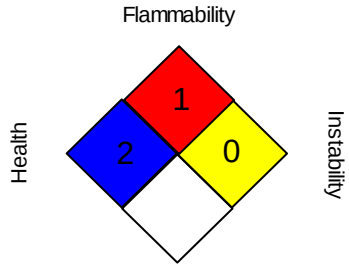
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

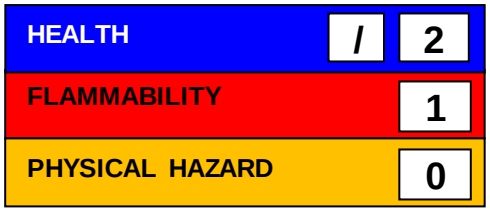
Further information

NFPA 704:



Special hazard.

HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable

Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 07/25/2019

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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