

Eastman Tenox(TM) 20A Food-Grade Antioxidant, Kosher

Version Revision Date: SDS Number: Date of last issue: 06/26/2013
3.0 04/25/2017 150000001404 Date of first issue: 04/10/2012
SDSCA / PRD / 0068 / 0091602679 / 0004361276 /

SECTION 1. IDENTIFICATION

Product name : Eastman Tenox(TM) 20A Food-Grade Antioxidant, Kosher

Product code : EAN 308224. P0647008

Manufacturer or supplier's details

Company name of supplier : Eastman Chemical Canada, Inc.

Address : 1 First Canadian Place
Toronto ON M5X 1G5

Emergency telephone number : 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**

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitisation : Category 1

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.

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Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.

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 + P364 Take off contaminated clothing and wash it before reuse.

Disposal:

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

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name : not applicable

Components

Chemical name	CAS-No.	Concentration (% w/w)
emulsifier	proprietary	32
corn oil	8001-30-7	30
2-tert-butylhydroquinone	1948-33-0	20
propylene glycol	57-55-6	15
citric acid	77-92-9	3

SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.
Treat symptomatically.
Get medical attention if symptoms occur.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes.
Take off all contaminated clothing immediately.
Wash contaminated clothing before re-use.
Get medical advice/ attention.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
Get medical advice/ attention.

If swallowed : Seek medical advice.

Most important symptoms : None known.

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and effects, both acute and delayed

SECTION 5. FIREFIGHTING MEASURES

- | | |
|---|---|
| Suitable extinguishing media | : Water spray
Dry chemical
Carbon dioxide (CO2)
Foam |
| Unsuitable extinguishing media | : None known. |
| Hazardous combustion products | : No hazardous combustion products are known |
| Further information | : None known. |
| Special protective equipment for firefighters | : 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 | : 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 contact with skin, eyes and clothing.
Do not taste or swallow.
Wash thoroughly after handling. |
| Conditions for safe storage | : Keep container tightly closed.
Keep from freezing. |

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
propylene glycol	57-55-6	TWA (Vapour and aerosols)	50 ppm 155 mg/m3	CA ON OEL
		TWA (aerosol)	10 mg/m3	CA ON OEL

Engineering measures : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Respiratory protection : Wear respiratory protection.

Hand protection

Remarks : Wear suitable gloves.

Eye protection : Wear safety glasses with side shields (or goggles).

Protective measures : Wear suitable protective equipment.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : viscous liquid

Colour : amber

Odour : slight

Odour Threshold : not determined

Boiling point/boiling range : 105 °C

Flash point : 126 °C
Method: method unspecified

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Evaporation rate : not determined
Vapour pressure : not determined
Relative density : 0.998 (20 °C)
Solubility(ies)
Water solubility : appreciable
Decomposition temperature : 315 °C
Method: DTA
Weak exotherm
Viscosity
Viscosity, dynamic : 369 mPa.s (25 °C)
Viscosity, kinematic : 369.7 mm²/s

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : None known.
Conditions to avoid : Incompatible materials
Incompatible materials : Strong oxidizing agents
Hazardous decomposition products : Carbon dioxide (CO₂)
Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Not classified based on available information.

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

propylene glycol:

Acute oral toxicity : LD50 Oral (Rat): 22,000 mg/kg

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Acute inhalation toxicity : LC50 (Rat): > 317 mg/l
Exposure time: 2 h
Remarks: (highest concentration tested)

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2,000 mg/kg

citric acid:

Acute oral toxicity : LD50 Oral (Rat): 2,263 mg/kg

Acute dermal toxicity : LD50 Dermal (Rat): > 2,000 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Components:**2-tert-butylhydroquinone:**

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

propylene glycol:

Species: Rabbit
Exposure time: 24 h
Result: none

citric acid:

Species: Rabbit
Exposure time: 24 h
Result: slight

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:**2-tert-butylhydroquinone:**

Species: Rabbit
Result: irritating

propylene glycol:

Species: Rabbit
Result: very slight

citric acid:

Species: Rabbit
Result: moderate to strong
Exposure time: 24 h

Respiratory or skin sensitisation

Skin sensitisation: May cause an allergic skin reaction.

Respiratory sensitisation: Not classified based on available information.

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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.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

Components:**citric acid:**

Exposure routes: Inhalation
Target Organs: respiratory tract irritation

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Information on likely routes of exposure**Product:**

Inhalation	: Remarks: None known.
Skin contact	: Remarks: Causes skin irritation. May cause an allergic skin reaction.
Eye contact	: Remarks: Causes serious eye irritation.
Ingestion	: 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

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Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 3.2 mg/l
Exposure time: 96 h

propylene glycol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Ceriodaphnia dubia (water flea)): 18,340 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (Chlorella pyrenoidosa (aglae)): 19,300 mg/l
Exposure time: 72 h
Test Type: Growth inhibition

citric acid:

Toxicity to fish : LC50 (Fish): 440 mg/l
Exposure time: 48 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (daphnid): 1,535 mg/l
Exposure time: 24 h

Persistence and degradability**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

propylene glycol:

Biodegradability : Concentration: 100 mg/l
Result: Readily biodegradable.
Biodegradation: 81.7 %
Exposure time: 28 d
Method: Ready Biodegradability: CO2 Evolution Test

Biochemical Oxygen Demand (BOD) : BOD-5:
1,080 mg/g

BOD-20:
1,225 mg/g

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Chemical Oxygen Demand (COD) : 1,630 mg/g

ThOD : 1,680 mg/g

citric acid:

Biodegradability : Concentration: 10 mg/l
Result: Readily biodegradable.
Biodegradation: 97 %
Exposure time: 28 d
Method: Ready Biodegradability: CO2 Evolution Test

Bioaccumulative potential**Components:****propylene glycol:**

Partition coefficient: n-octanol/water : Pow: 0.12
log Pow: -0.92

citric acid:

Bioaccumulation : Remarks: Does not bioaccumulate.

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 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(2-tert-butylhydroquinone)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passen- : 964

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Marine pollutant : no

No substances are subject to a Significant New Activity Notification.

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Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; 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; 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 04/25/2017

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