

**Eastman(TM) 1,4-CHDA-HP**

PO00091381

Version	Revision Date:	SDS Number:	Date of last issue: 09/15/2016
2.2	08/27/2019	150000001166	Date of first issue: 09/06/2016
PRD		SDSUS / Z8 / 0001	N46 / 0090151734 / 0004272709

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**SECTION 1. IDENTIFICATION**

Product name : Eastman(TM) 1,4-CHDA-HP

Product code : P1498410

**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 : Chemical intermediate

Restrictions on use : None known.

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**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with 29 CFR 1910.1200**

Combustible dust

Eye irritation : Category 2A

**GHS label elements**

Hazard pictograms :



Signal Word : Warning

Hazard Statements : 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:**  
P264 Wash skin thoroughly after handling.  
P280 Wear eye protection/ face protection.  
**Response:**  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

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to do. Continue rinsing.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.

**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)
1,4-cyclohexanedicarboxylic acid	1076-97-7	98
Water	7732-18-5	1
impurities	not applicable	1

**SECTION 4. FIRST AID MEASURES**

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

In case of skin contact : Wash off with soap and water.  
Get medical attention if symptoms occur.

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 and effects, both acute and delayed : Causes serious eye irritation.

Notes to physician : Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Use water spray to extinguish.  
Dry chemical  
Carbon dioxide (CO2)

Unsuitable extinguishing media : None known.

Hazardous combustion products : No hazardous combustion products are known

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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 : 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 : Minimize dust generation and accumulation.

Advice on safe handling : Avoid contact with eyes. Wash thoroughly after handling. Minimize dust generation and accumulation.

Conditions for safe storage : Keep container 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 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.

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Eye protection : Safety glasses

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

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : solid

Color : white

Odor : odorless

Odor Threshold : not determined

pH : not determined

Melting point/range : 325 - 336 °F / 163 - 169 °C

Boiling point/boiling range : not determined

Flash point : 455 °F / 235 °C

Method: Cleveland open cup

Evaporation rate : not determined

Flammability (solid, gas) : May form combustible dust concentrations in air during processing, handling or other means.

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 : 1.35

Solubility(ies)

Water solubility : Moderate

Partition coefficient: n-octanol/water : Pow: 20.9  
log Pow: 1.32  
cis isomer

Pow: 5.4  
log Pow: 0.73  
trans isomer

Autoignition temperature : 781 °F / 416 °C

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Method: ASTM E659

Decomposition temperature : Method: DTA  
No exotherm to 450°C

## Viscosity

Viscosity, dynamic : not determined

Viscosity, kinematic : not determined

Explosive properties : No data available

Oxidizing properties : No data available

Minimum ignition energy : 3 - 5 mJ

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : Stable

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : None known.

Conditions to avoid : Avoid dust formation.

Incompatible materials : Strong oxidizing agents

Hazardous decomposition products : Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity**

Not classified based on available information.

**Product:**

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

**Components:****1,4-cyclohexanedicarboxylic acid:**

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

LD50 Oral (Rat, male): 1,903 mg/kg

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

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**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Remarks : No data available

**Components:****1,4-cyclohexanedicarboxylic acid:**

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

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Product:**

Remarks : No data available

**Components:****1,4-cyclohexanedicarboxylic acid:**

Species	:	Rabbit
Result	:	slight
Exposure time	:	24 h

**Respiratory or skin sensitization****Skin sensitization**

Not classified based on available information.

**Respiratory sensitization**

Not classified based on available information.

**Product:**

Remarks : No data available

**Components:****1,4-cyclohexanedicarboxylic acid:**

Test Type	:	Skin Sensitization
Species	:	Guinea pig
Result	:	non-sensitizing

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**Product:**

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Remarks : This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

**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: None known.

Eye contact : Remarks: Causes serious eye irritation.

Ingestion : Remarks: None known.

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****1,4-cyclohexanedicarboxylic acid:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (daphnid): > 100 mg/l  
aquatic invertebrates Exposure time: 48 h

**Persistence and degradability****Components:****1,4-cyclohexanedicarboxylic acid:**

Biochemical Oxygen De- : 10 mg/g  
mand (BOD) Incubation time: 5 d

1,300 mg/g  
Incubation time: 20 d

Chemical Oxygen Demand : 1,500 mg/g  
(COD)

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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**SECTION 14. TRANSPORT INFORMATION****International Regulations****IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

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**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

**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** : Fire Hazard  
Acute Health Hazard

**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 : All substances listed as active on the TSCA inventory

**TSCA list**

No substances are subject to a Significant New Use Rule.

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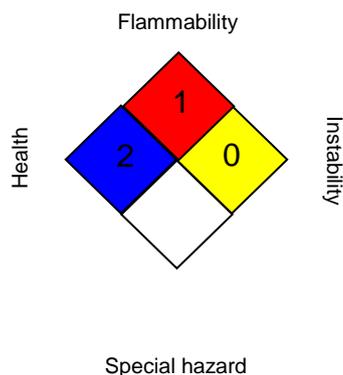
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No substances are subject to TSCA 12(b) export notification requirements.

## SECTION 16. OTHER INFORMATION

## Further information

## NFPA 704:



## HMIS® IV:

HEALTH	/	2
FLAMMABILITY		1
PHYSICAL HAZARD		0

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; IECS - 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

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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 : 08/27/2019

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.

US / Z8