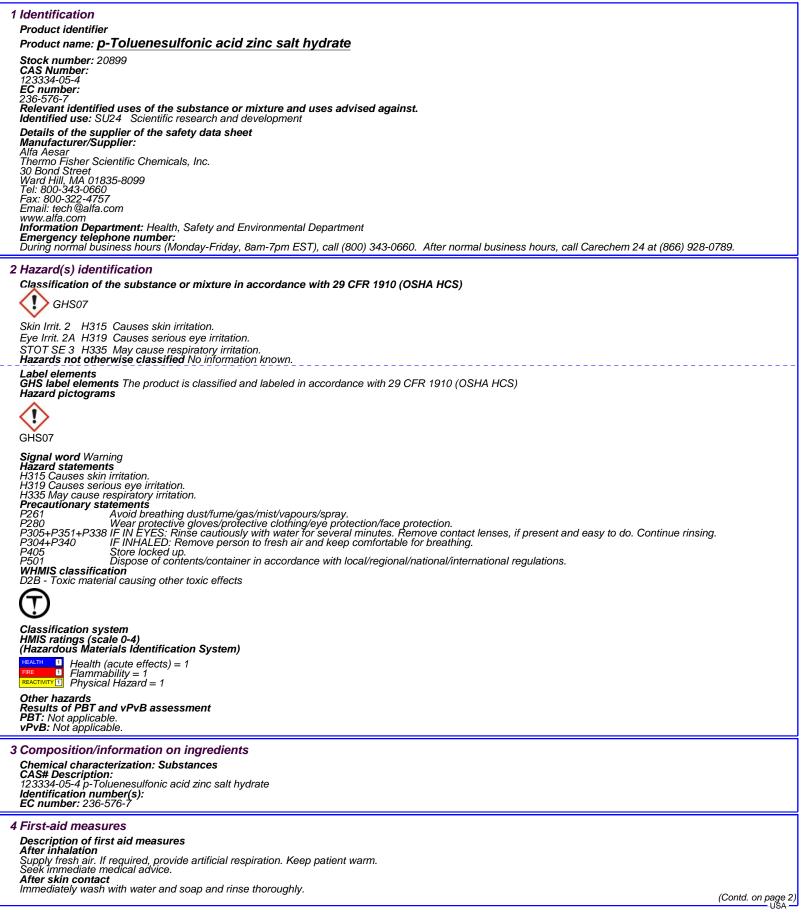


Safety Data Sheet per OSHA HazCom 2012



Product name: p-Toluenesulfonic acid zinc salt hydrate

(Contd. of page 1)

Seek immediate medical advice After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor. After swallowing Seek medical treatment. Information for doctor Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special freatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide Sulfur oxides (SOX) Motal oxide furger Metal oxide fume Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away Ensure adequate ventilation Environmental precautions: Do not allow material to be released to the environment without proper governmental permits. Methods and material for containment and cleaning up: Ensure adequate ventilation. Prevention of secondary hazards: No special measures required. Reference to other sections See Section 7 for information on safe handling See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7 Handling and storage

Handling Precautions for safe handling Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Information about protection against explosions and fires: No information known. Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Store away from oxidizing agents. Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Specific end use(s) No further relevant information available. 8 Exposure controls/personal protection Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. Control parameters Components with limit values that require monitoring at the workplace: Not required. Additional information: No data Exposure controls Personal protective equipment The usual protective equipment General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin. Maintai an ergonomically appropriate working environment Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Protection of hands: Impervious gloves The periods gloves of the prior to each use for their proper condition. Check protective gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. **Penetration time of glove material (in minutes)** Not determined Eye protection: Safety glasses Body protection: Protective work clothing. 9 Physical and chemical properties Information on basic physical and chemical properties **General Information** Appearance: Form: Powder Color: White Not determined Odor: Odor threshold: Not determined pH-value: Not applicable. Change in condition Not determined

Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start: Flammability (solid, gaseous) Not determined Not determined Not determined

Product name: p-Toluenesulfonic acid zinc salt hydrate

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| Decomposition temperature: Auto igniting: | | (Contd. of pag |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Auto igniting: | Not determined | |
| | Not determined Not determined. | |
| Danger of explosion: | Not determined. | |
| Explosion limits: | Not determined. | |
| Lower: | Not determined | |
| Upper: Vapor pressure: | Not determined Not applicable. | |
| Density: | Not determined | |
| Relative density | Not determined. | |
| Vapor density Evaporation rate | Not applicable. Not applicable. | |
| Solubility in / Miscibility with | | |
| Water: | Not determined | |
| Partition coefficient (n-octanol/water): Viscosity: | ivot determined. | |
| dynamic: | Not applicable. | |
| | Not applicable. No further relevant information available. | |
| | | |
|) Stability and reactivity | | |
| Reactivity No information known. | | |
| Chemical stability Stable under recomm | nended storage conditions. | |
| Thermal decomposition / conditions to | b be avoided: Decomposition will not occur if used and stored according to specifications. | |
| Possibility of hazardous reactions No c Conditions to avoid No further relevant i | information available. | |
| Incompatible materials: Oxidizing agent | ts | |
| Hazardous decomposition products: Carbon monoxide and carbon dioxide | | |
| Sulfur oxides (SOx) | | |
| Metal oxide fume ' | | |
| Toxicological information | | |
| - | | |
| Information on toxicological effects Acute toxicity: No effects known. | | |
| LD/LC50 values that are relevant for cla | lassification: No data | |
| Skin irritation or corrosion: Causes skin | in irritation. | |
| Eye irritation or corrosion: Causes serie | | |
| Sensitization: No sensitizing effects know | WD. | |
| Carcinogenicity: No classification data c | wn. on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. | |
| Reproductive toxicity: No effects known | Л. | |
| Specific target organ system toxicity - | repeated exposure: No effects known. | |
| Aspiration hazard: No effects known | single exposure: May cause respiratory irritation. | |
| Subacute to chronic toxicity: No effects | s known. | |
| Additional toxicological information: 1 | o the best of our knowledge the acute and chronic toxicity of this substance is not fully known. | |
| Ecological information | | |
| Toxicity | | |
| | nmation available. | |
| | | |
| Aquatic toxicity: No further relevant info Persistence and degradability No further | er relevant information available. | |
| Aquatic toxicity: No further relevant info Persistence and degradability No further Bioaccumulative potential No further rel | elevant information available. | |
| Aquatic toxicity: No further relevant infor Persistence and degradability No further Bioaccumulative potential No further re- Mobility in soil No further relevant inform | elevant information available. | |
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(Contd. on page 4)

| | Reviewed on U9/26/201 | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Product name: p-Toluenesulfonic acid zinc salt hydrate | | |
| | (Contd. of page 3 | |
| Transport/Additional information: DOT | | |
| Marine Pollutant (DOT): | No | |
| UN "Model Regulation": | - | |
| 15 Regulatory information | | |
| C | s/legislation specific for the substance or mixture | |
| GHS label elements The product is classified a Hazard pictograms | ind labeled in accordance with 29 CFR 1910 (OSHA HCS) | |
| \bigcirc | | |
| GHS07 | | |
| | | |
| Signal word Warning Hazard statements | | |
| H315 Causes skin irritation. H319 Causes serious eye irritation. | | |
| H335 May cause respiratory initiation. Precautionary statements | | |
| P261 Avoid breathing dust/fume/ga P280 Wear protective gloves/protective | as/mist/vapours/spray. | |
| P280 Wear protective gloves/protective P305+P351+P338 IF IN EYES: Rinse cautiously | as/mist/vapours/spray. ctive clothing/eye protection/face protection. y with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. n to fresh air and keep comfortable for breathing. | |
| P405 Store locked up. | | |
| P501 Dispose of contents/containe National regulations | er in accordance with local/regional/national/international regulations. | |
| All components of this product are listed in the L | J.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory. Canadian Domestic Substances List (DSL). | |
| SARA Section 313 (specific toxic chemical list | | |
| 123334-05-4 p-Toluenesulfonic acid zinc salt hy | | |
| California Proposition 65 Prop 65 - Chemicals known to cause cancer (| Substance is not listed. | |
| Pron 65 - Developmental toxicity Substance is | s not listed | |
| Prop 65 - Developmental toxicity, female Sub Prop 65 - Developmental toxicity, male Substance Sub- Prop 65 - Developmental toxicity, male Substa | ance is not listed. | |
| Other regulations, limitations and prohibitive | | |
| Substance of Very High Concern (SVHC) acc The conditions of restrictions according to A | niv by technically qualified individuals. e regulations cording to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on th | |
| market and use must be observed. Substance is not listed. | | |
| Annex XIV of the REACH Regulations (require | ring Authorisation for use) Substance is not listed. | |
| Chemical safety assessment: A Chemical Safe | ety Assessment has not been carried out. | |
| 16 Other information | supplement to other information gathered by them, and should make independent judgement of suitability of this | |
| information to ensure proper use and protect the | e health and safety of employees. This information is furnished without warranty, and any use of the product not in et, or in combination with any other product or process, is the responsibility of the user. | |
| Department issuing SDS: Global Marketing De | | |
| | | |
| ADDreviations and acronyins: RID: Règlement international concernant le transport des march ICAO: International Civil Aviation Organization | - ' - handises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) gereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) Substances emical Society) Canada) | |
| ADR: Accord européen sur le transport des marchandises dange IMDG: International Maritime Code for Dangerous Goods | ereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) | |
| DOT: US Department of Transportation IATA: International Air Transport Association | | |
| EINECS: European Inventory of Existing Commercial Chemical CAS: Chemical Abstracts Service (division of the American Chei HMS: Hazardous Materials Identification System (USA) | Substances imical Society) | |
| WHMIS: Workplace Hazardous Materials Information System (C LC50: Lethal concentration. 50 percent | Canada) | |
| LD50: Lethal dose, 50 percent vPvB: very Persistent and very Bioaccumulative | | |
| ACGIH: American Conference of Governmental Industrial Hygie. OSHA: Occupational Safety and Health Administration (USA) | inists (USA) | |
| NTP: National Toxicology Program (USA) IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA) | | |
| LI A. Environmentar i reconoris, geney (cosy | USA | |
| | | |