Product Stewardship Summary

Sodium xylene sulfonate

General Statement

Sodium xylene sulfonate is a hydrotrope, an organic compound that increases the ability of water to dissolve other molecules. Sodium xylene sulfonate is a low hazard material and risk of adverse health effects associated with both occupational and consumer use of this chemical is anticipated to be low.

Chemical Identity

Name: Sodium xylene sulfonate  
Brand Names: Not applicable  
Chemical name (IUPAC): Sodium dimethylbenzenesulfonate  
CAS number(s): 1300-72-7  
EC number: 215-090-9  
Molecular formula: C_8H_9NaO_3S

Uses and Applications

Sodium xylene sulfonate is used in liquid household detergents and shampoos, in degreasing compounds and printing pastes used in the textile industry. It is also a surfactant found in personal care products, primarily in shampoos, because of its ability to serve as a claritant or wetting agent that helps a formula spread more easily. Sodium xylene sulfonate is also used to extract pentosans and lignin in the paper industry, and as a glue additive in the leather industry.
Physical/Chemical Properties

Phys/Chem Safety Assessment

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Crystalline</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Density</td>
<td>0.984 g/cm$^3$ @ 20°C</td>
</tr>
<tr>
<td>Melting / boiling point</td>
<td>&gt;300°C / Not available</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not highly flammable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Self-ignition temperature</td>
<td>320.9 °C</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Mol weight</td>
<td>208.21 g/mol</td>
</tr>
<tr>
<td>Water solubility</td>
<td>664 g/l at 20 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available</td>
</tr>
<tr>
<td>Octanol-water partition coefficient (Log$k_{ow}$)</td>
<td>-3.12 @20°C</td>
</tr>
</tbody>
</table>

Exposure, Hazard and Safety Assessment

The following section describes possible exposure scenarios and hazards associated with sodium xylene sulfonate. The exposure assessment describes both the amount of and the frequency with which a chemical substance reaches a person, a population of people, or the environment. Hazard refers to the inherent properties of a substance that make it capable of causing harm to human health or the environment. The safety assessment reports the possibility of a harmful event arising from exposure to a chemical or physical agent under specific conditions. Just because a substance may possess potentially harmful properties does not mean that it automatically poses a risk. It is not possible to make that determination without understanding the exposure.

Human Health Effects

Human Exposure Assessment

**Consumer:** Sodium xylene sulfonate is used in liquid household detergents and shampoos. Therefore, consumer oral and dermal exposures could occur when using products that contain sodium xylene sulfonate in the product formulations.

**Worker:** In industrial settings, sodium xylene sulfonate is manufactured and handled in closed processes as much as possible, which ensures that worker exposure is minimized. When there is potential for exposure, during loading, unloading, sampling or during maintenance operations, exposure to sodium xylene sulfonate can be further minimized by the proper use of personal protective equipment.

Human Hazard Assessment

Sodium xylene sulfonate is low for both acute and repeat dose toxicity. It can cause eye irritation but is not anticipated to result in skin irritation or sensitization. Sodium xylene sulfonate is not associated with reproductive toxicity, genotoxicity/mutagenicity or carcinogenicity.
### Human Health Safety Assessment

**Consumer:** Sodium xylene sulfonate is used in liquid household detergents and shampoos. Risk to human health following exposure is unlikely due to the low toxicity of this material. Direct contact with the eyes should be avoided.

**Worker:** In industrial settings, sodium xylene sulfonate is manufactured and handled primarily in closed processes which limit exposure. Based on good manufacturing processes and industrial hygiene, the occupational health risk associated with sodium xylene sulfonate is low.

### Environmental Effects

#### Environmental Exposures

Sodium xylene sulfonate is anticipated to be readily biodegradable and has low potential for bioaccumulation. Volatilization from water surfaces is not expected.

#### Environmental Hazard Assessment

<table>
<thead>
<tr>
<th>Effect Assessment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Toxicity</td>
<td>Low toxicity to aquatic organisms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fate and behavior</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodegradation</td>
<td>Readily biodegradable, based on similar chemicals.</td>
</tr>
<tr>
<td>Bioaccumulation potential</td>
<td>Not potentially bioaccumulative (log Kow = -3.12).</td>
</tr>
<tr>
<td>PBT / vPvB conclusion</td>
<td>Not considered to be either PBT or vPvB.</td>
</tr>
</tbody>
</table>

### Environmental Safety Assessment

Based on the available data, sodium xylene sulfonate is of low toxicity to aquatic organisms. It is readily biodegradable and has a low potential for bioaccumulation. Therefore, minor releases into the aquatic environment are not anticipated to result in adverse effects.
Risk Management Recommendations

Exposure to sodium xylene sulfonate in the workplace can be controlled by sufficient ventilation, proper handling and storage techniques, and the use of appropriate personal protective equipment as recommended in the SDS.

A selection of occupational exposure limits are provided, below.

- No occupational exposure limit identified.

Regulatory Agency Review

Sodium xylene sulfonate is on the following lists:

- Australian Inventory of Chemical Substances (AICS)
- China - Chemical Inventory of Existing Chemical Substances (IECSC) - CAS Numbers
- ECHA - List of Pre-registered Substances
- Environment Canada - Domestic Substances List (DSL)
- Environment Canada - Domestic Substances List (DSL) Categorization of Existing Substances
- EPA - Chemical Update System (CUS) - 2002
- EPA - DfE - Safer Chemical Ingredients List - Safer Chemicals Ingredient List
- EPA - DfE - Safer Chemical Ingredients List - Surfactants
- EPA - High Production Volume (HPV) - Chemical Hazard Data Availability
- EPA - Inert Ingredients in Pesticide Products
- EPA - Inert Ingredients Permitted for Use In Nonfood Pesticide Products
- EPA - Office of Pollution Prevention and Toxics (OPPT) High Production Volume (HPV) Program - 1990
- EPA - TSCA - Inventory
- EU - Cosmetic Ingredients and Fragrance Inventory
- EU - European Inventory of Existing Commercial Substances (EINECS)
- FDA - Inactive Ingredients List
- FDA - Inventory of Effective Food Contact Substance (FCS) Notifications
- FDA - List of Indirect Additives
- International Council of Chemical Associations (ICCA) - High Production Volume (HPV) Initiative
- International Council of Chemical Associations (ICCA) - High Production Volume (HPV) Initiative Completed Summaries
- Mexico - National Inventory of Chemical Substances
- New Zealand - Inventory of Chemicals (NZIoC)
- OECD - High Production Volume (HPV) Chemicals - 2004
- OECD - High Production Volume (HPV) Chemicals - 2007
- Philippine Inventory of Chemicals and Chemical Substances (PICCS)

Regulatory Information / Classification and Labeling

Under the Globally Harmonized System for classification and labeling (GHS), substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the (Extended) SDS. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use.

GHS Classification:

- Eye Irritation, Category 2A
- Acute toxicity (dermal), Category 5

Hazard Statements:

- H313: May be harmful in contact with skin.
- H319: Causes serious eye irritation
Signal Word: Warning

Precautionary Statements:

P280: Wear eye protection/ face protection/protective gloves.
P302: IF ON SKIN: Wash with plenty of soap and water.
P305: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333: If skin irritation or rash occurs: Get medical advice/ attention.
P337: If eye irritation persists: Get medical advice/ attention.

Hazard Pictograms:

Conclusion

Sodium xylene sulfonate is used in liquid household detergents and shampoos, in degreasing compounds and printing pastes used in the textile industry in agents used to extract pentosans and lignin in the paper industry, and as a glue additive in the leather industry. When handled responsibly, the potential for eye irritation can be minimized, allowing consumers and workers to use materials containing sodium xylene sulfonate safely.

Contact Information with Company

Ashland Inc.
5200 Blazer Parkway
Dublin, Ohio 43017  http://www.ashland.com/contact

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Revision:  1

Additional Information

For more information on GHS, visit http://www.osha.gov/dsg/hazcom/ghsguidemay05.pdf or http://live.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html.
Ashland product stewardship summaries are located at http://www.ashland.com/sustainability/product/product-stewardship

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Inclusion on the New Zealand Inventory of Chemicals applies only to the pure substance listed. The importer of record must determine whether or not their substances are in compliance.