SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 - Product Identifiers
   Catalog Name: Benzene

1.2 - Relevant Identified Uses of the Substance or Mixture
   Laboratory Chemical Reference Material

1.3 - Supplier Details
   Company: AccuStandard, Inc.
   125 Market St.
   New Haven, CT  06513 USA
   Telephone Number: 203-786-5290
   Fax: 203-786-5287
   Email: edocs@accustandard.com

1.4 - Emergency Telephone Number
   Emergency Phone #: AccuStandard, Inc.
   1-203-502-7070 (USA)
   +001-203-502-7070 (International)
   24 hours / 7 days a week

SECTION 2 - HAZARDS IDENTIFICATION

2.1 - GHS Label Elements

Signal Word: Danger

Hazard Codes:
H225 - Highly Flammable (Flammable liquids, category 2)
H302 - Harmful if swallowed. (Acute toxicity, oral, category 4)
H304 - Aspiration hazard if swallowed - may be fatal if swallowed and enters airways. (Aspiration hazard, category 1)
H315 - Irritating to skin. (Skin corrosion/irritation, category 2)
H332 - Irritating to skin. (Skin corrosion/irritation, category 2)
H335 - May be irritating to mucous membrane and upper respiratory system. (Specific target organ toxicity, single exposure; Respiratory tract irritation, category 3)
H340 - May cause heritable genetic damage. (Germ cell mutagenicity, category 1)
H350 - This product is or contains a component that is classified (ACGIH, IARC, NTP, OSHA) as a cancer hazard. (Carcinogenicity, category 1A)
SECTION 2 - HAZARDS IDENTIFICATION

2.1 - GHS Label Elements

H360, H350 - California Proposition 65 Warning: This product contains a component (or components) that may cause cancer and genetic effects in a concentration greater than or equal to 0.1%.

H372 - Danger of serious damage to health by prolonged exposure. (Specific target organ toxicity, repeated exposure, Category 1)

H402 - Harmful to fish and other water organisms.

Precautionary Codes:

P202 - This product should only be used by persons trained in the safe handling of hazardous chemicals.

P233 - Store in a tightly closed container. (P404)

P262 - Do not get in eyes, on skin or clothing.

P264 - Wash thoroughly after handling. Do not take internally. Eye wash and safety equipment should be readily available.

P280 - Protective gloves must be worn to prevent skin contact.

P284 - Respiratory Protection: If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), or a risk assessment shows air-purifying respirators are appropriate, use of a NIOSH/MSHA approved air supplied respirator is advised. Use a full-face respirator with multi-purpose combination (US) or type ABEK (EN14387) respirator cartridges in absence of proper environmental control. Always use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Engineering and/or administrative controls should be implemented to reduce exposure.

P331 - Ingestion: Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

P338 - Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers.

P360 - Skin contact: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

2.2 - Other Hazards

2.2.1 - Symptom of Exposure Health/Environment

Highly Flammable (Flammable liquids, category 2)

Aspiration hazard if swallowed - may be fatal if swallowed and enters airways. (Aspiration hazard, category 1)

May cause heritable genetic damage. (Germ cell mutagenicity, category 1)

Danger of serious damage to health by prolonged exposure. (Specific target organ toxicity, repeated exposure, Category 1)

Harmful to fish and other water organisms. (H402)

2.2.2 - Potential Health Effects

May be irritating to eyes.

Irritating to skin. (Skin corrosion/irritation, category 2)

May be harmful if absorbed through the skin. (Acute toxicity, dermal, category 5)

May be irritating to mucous membrane and upper respiratory system. (Specific target organ toxicity, single exposure; Respiratory tract irritation, category 3)

Harmful if inhaled. (Acute toxicity, inhalation, category 4)

Harmful if swallowed. (Acute toxicity, oral, category 4)

2.2.3 - Routes of Entry

Ihalation, ingestion or skin contact.

2.2.4 - Carcinogenicity

California Proposition 65 cancer hazard.
SECTION 2 - HAZARDS IDENTIFICATION  - continued

2.2 - Other Hazards  - continued

2.2.4 - Carcinogenicity  - continued

This product is or contains a component that is classified (ACGIH, IARC, NTP, OSHA) as a cancer hazard. (Carcinogenicity, category 1A)

California Proposition 65 Warning: This product contains a component (or components) that may cause cancer and genetic effects in a concentration greater than or equal to 0.1%.

SECTION 3 - COMPOSITION / ANALYTES DATA

Description: Benzene
Synonyms: Cyclohexatriene
Molecular Weight: 78.11
Molecular Formula: C6H6

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<th>Analyte</th>
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<th>OSHA -PEL (mg/m³)</th>
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SECTION 4 - FIRST AID MEASURES

4.1 - First Aid Procedures - General

Get medical assistance for all cases of overexposure.

4.2 - Eye Contact

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. (P338)

4.3 - Skin Contact

Skin contact: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse. (P360)

4.4 - Inhalation

Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

4.5 - Ingestion

Ingestion: Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. (P331)

SECTION 5 - FIRE FIGHTING MEASURES

5.1 - Flammable Properties

Vapors can travel to a source of ignition and flash back.
Containers can build up pressure if exposed to heat.
During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

5.2 - Extinguishing Media

Use alcohol foam, carbon dioxide, dry chemical, or water spray when fighting fires involving this material.

5.3 - Protection of Firefighters

As in any fire, wear self-contained breathing apparatus pressure demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 - Spill Response
Wear a self-contained breathing apparatus and appropriate Personal protection. Stop leak if you can do so without risk. Ventilate area. Neutralize spill with soda ash or lime. Take up and containerize for proper disposal. Flush spill area with water. Keep combustibles away from spilled material. Comply with Federal, State, and local regulations.

SECTION 7 - HANDLING AND STORAGE
Store in a tightly closed container. (P404)
Store in a cool, dry area.
Electrically ground all equipment when handling this product.
Avoid breathing vapors or mists.
Do not get in eyes, on skin or clothing. (P262)
Avoid prolonged or repeated exposure.
This product should only by used by persons trained in the safe handling of hazardous chemicals. (P202)

SECTION 8 - EXPOSURE CONTROLS

8.1 - Engineering Controls/PPE
Wash thoroughly after handling. Do not take internally. Eye wash and safety equipment should be readily available. (P264)

8.2 - General Hygiene Considerations
Respiratory Protection: If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), or a risk assessment shows air-purifying respirators are appropriate, use of a NIOSH/MSHA approved air supplied respirator is advised. Use a full-face respirator with multi-purpose combination (US) or type ABEK (EN14387) respirator cartridges in absence of proper environmental control. Always use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Engineering and/or administrative controls should be implemented to reduce exposure.
Material must be handled or transferred in an approved fume hood or with equivalent ventilation.
Protective gloves must be worn to prevent skin contact. (P280)
(Polyvinyl alcohol (PVA), viton or equivalent)
Impervious protective clothing should be worn to prevent skin contact.
Use eye protection tested and approved under the appropriate government standards such as NIOSH (US) or EN 166 (EU).

All recommendations are advisory only and must be evaluated by an industrial hygienist and/or safety officer familiar with the specific situation of anticipated use, such as concentration and amount of the substance in the workplace. Any recommendation should not be construed as offering an approval for any specific use of the product.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear liquid
Odor: Characteristic
Odor Threshold: 4.68 ppm
pH: N/A
Melting Point: 5.5 °C
Boiling Point: 80.1 °C
Flash Point: 12 °F (-11 °C) (cc)
Evaporation Rate (Butyl Acetate=1): 6.0
SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES - continued

Flammability Class: N/A
Lower Flammability Level: 1.30
Upper Flammability Level: 8
Vapor Pressure: 74.6 mmHg (20 °C)
Vapor Density (Air = 1): 2.77
Specific Gravity: 0.878 g/cm3
Solubility in Water: 1790 mg/L
Partition Coefficient: log Pow: 2.13
Autoignition Temperature: 498 °C
Decomposition Temperature: N/A
Viscosity: N/A
VOC Content: N/A
Percent Volatile: 99+

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable
Materials to Avoid: Oxidizers
Acids
Bases

Hazardous Decomposition: Oxides of carbon; Hydrocarbons
Hazardous Polymerization: Will not occur
Condition to Avoid: Heat; Contact with ignition sources

SECTION 11 - TOXICOLOGICAL INFORMATION

Human Health Toxicity
See section 2 for specific toxicological information for the ingredients of this product.
LD50 (Oral): Rat - 930 mg/kg
LD50 (Dermal): Rabbit - 9400 mg/kg
LC50 (Inhalation): Rat - 32 mg/L 7H
Aspiration hazard if swallowed - may be fatal if swallowed and enters airways. (Aspiration hazard, category 1)
WARNING: This product contains chemical(s) known to the state of California to cause cancer and to cause birth defects or other reproductive harm.
No other information related to the toxicological properties of this product is available at this time.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Toxicity
By complying with sections 6 and 7 there should be no release to the environment.
LC50 (Fish): 15 - 32 mg/L 96H
EC50 (Aquatic Invertebrate): 100 mg/L 72H
BCF: 10
No other information related to the ecological properties of this product is available at this time.
SECTION 13 - DISPOSAL CONSIDERATIONS

Recycle or incinerate at any EPA approved facility or dispose in compliance with Federal, State and local regulations. Empty containers must be triple-rinsed prior to disposal.

SECTION 14 - TRANSPORT INFORMATION

Transportation Information (DOT/IATA)

UN Number: UN1114
Class: 3
Packing Group: II
Proper Shipping Name: Benzene
Poison by Inhalation: No
Marine Pollutant: No

SECTION 15 - REGULATORY INFORMATION

WARNING: This product contains chemical(s) known to the state of California to cause cancer and to cause birth defects or other reproductive harm.

All components are listed on the TSCA Inventory.

For laboratory, research and development use only. Not for manufacturing or commercial purposes.

In addition to federal and state regulations, local regulations may apply. Check with your local regulatory authorities.

SECTION 16 - OTHER INFORMATION

This document has been designed to meet the requirements of OSHA, ANSI, GHS and CHIPs regulations. Chemicals are classified using the Globally Harmonized System for Classification and Labeling of Chemicals and CLP Regulation (EC) No. 1272/2008.

The statements contained herein are offered for informational purposes only and are based on technical data that we believe to be accurate. The manufacturer will not assume any liability for the accuracy and completeness of this information. Final determination of the suitability of the material is the responsibility of the user. Although certain hazards are described herein, the user should not presume that these are the only hazards that exist. Since conditions and manner of use are outside of the manufacturers control, we make

NO WARRANTY OF MERCHANTABILITY, EXPRESSED OR IMPLIED, AND ASSUME NO LIABILITY RESULTING FROM ITS USE.

Legend:  N/A = Not Available  ND = Not Determined  NR = Not Regulated

Alteration of any information contained herein without written permission from the manufacturer is strictly prohibited.

HMIS/NFPA HAZARD INDEX

0 - Minimal
1 - Slight
2 - Moderate
3 - Serious
4 - Severe

* - Additional Hazard
GHS HAZARD INDEX

Category 1 - Most Severe
Category 5 - Least Severe

**** End of Document ****
SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 - Product Identifiers
   Catalog Name: Mixed Xylenes

1.2 - Relevant Identified Uses of the Substance or Mixture
   Laboratory Chemical Reference Material

1.3 - Supplier Details
   Company: AccuStandard, Inc.
       125 Market St.
       New Haven, CT 06513 USA
   Telephone Number: 203-786-5290
   Fax: 203-786-5287
   Email: edocs@accustandard.com

1.4 - Emergency Telephone Number
   Emergency Phone #: AccuStandard, Inc.
       1-203-502-7070 (USA)
       +001-203-502-7070 (International)

       24 hours / 7 days a week

SECTION 2 - HAZARDS IDENTIFICATION

2.1 - GHS Label Elements

   Signal Word: Warning

   Hazard Codes:
   H226 - Flammable liquid. (Flammable liquids, category 3)
   H315 - Irritating to skin. (Skin corrosion/irritation, category 2)
   H320 - Irritating to eyes. (Eye damage/irritation, category 2B)
   H335 - May be irritating to mucous membrane and upper respiratory system. (Specific target organ toxicity, single exposure; Respiratory tract irritation, category 3)
   H336 - Vapors may cause drowsiness and dizziness. (Specific target organ toxicity, single exposure; Narcotic effects, Category 3)
   H361 - Suspect reproductive hazard. (Reproductive toxicity, category 2)
   H402 - Harmful to fish and other water organisms.

   Precautionary Codes:
   P202 - This product should only by used by persons trained in the safe handling of hazardous chemicals.

SDS Date: 2/26/2019
SECTION 2 - HAZARDS IDENTIFICATION - continued

2.1 - GHS Label Elements - continued

P233 - Store in a tightly closed container. (P404)
P260 - Do not breathe vapor.
P262 - Do not get in eyes, on skin or clothing.
P264 - Wash thoroughly after handling. Do not take internally. Eye wash and safety equipment should be readily available.
P280 - Protective gloves must be worn to prevent skin contact.
P284 - Respiratory Protection: If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), or a risk assessment shows air-purifying respirators are appropriate, use of a NIOSH/MSHA approved air supplied respirator is advised. Use a full-face respirator with multi-purpose combination (US) or type ABEK (EN14387) respirator cartridges in absence of proper environmental control. Always use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Engineering and/or administrative controls should be implemented to reduce exposure.
P338 - Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers.
P360 - Skin contact: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

2.2 - Other Hazards

2.2.1 - Symptom of Exposure Health/Environment

Flammable liquid. (Flammable liquids, category 3)
Suspect reproductive hazard. (Reproductive toxicity, category 2)
Vapors may cause drowsiness and dizziness. (Specific target organ toxicity, single exposure; Narcotic effects, Category 3)
Causes depression of central nervous system.
Harmful to fish and other water organisms. (H402)

2.2.2 - Potential Health Effects

Irritating to eyes. (Eye damage/irritation, category 2B)
Irritating to skin. (Skin corrosion/irritation, category 2)
May be harmful if absorbed through the skin. (Acute toxicity, dermal, category 5)
May be irritating to mucous membrane and upper respiratory system. (Specific target organ toxicity, single exposure; Respiratory tract irritation, category 3)
May be harmful if inhaled. (Acute toxicity, inhalation, category 5)
May be harmful if swallowed. (Acute toxicity, oral, category 5)

2.2.3 - Routes of Entry

Inhalation, ingestion or skin contact.

2.2.4 - Carcinogenicity

This product is or contains a component that is classified (ACGIH, IARC, NTP, OSHA) as probably not a cancer hazard.

SECTION 3 - COMPOSITION / ANALYTES DATA

Description: Mixed Xylenes
Synonyms: N/A
Molecular Weight: N/A
Molecular Formula: N/A
SECTION 3 - COMPOSITION / ANALYTES DATA - continued

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<th>Analyte</th>
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<th>ACGIH - TLV (mg/m³) TWA</th>
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<td></td>
</tr>
</tbody>
</table>

SECTION 4 - FIRST AID MEASURES

4.1 - First Aid Procedures - General
Get medical assistance for all cases of overexposure.

4.2 - Eye Contact
Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. (P338)

4.3 - Skin Contact
Skin contact: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse. (P360)

4.4 - Inhalation
Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

4.5 - Ingestion
Ingestion: Call a physician or poison control center immediately. ONLY induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 - Flammable Properties
Dangerous fire hazard.
Vapors can travel to a source of ignition and flash back.
Vapors may form explosive mixture with air.
During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

5.2 - Extinguishing Media
Use alcohol foam, carbon dioxide, or dry chemical when fighting fires involving this material.
Water may not effect extinguishment.
Water spray to cool fire-exposed containers and disperse vapors.

5.3 - Protection of Firefighters
As in any fire, wear self-contained breathing apparatus pressure demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 - Spill Response
Wear suitable protective equipment listed under Exposure Controls / Personal Protection. Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards. Contain the release and eliminate its source, if this can be done without risk. Dispose as hazardous waste. Comply with Federal, State and local regulations.
SECTION 7 - HANDLING AND STORAGE

Store in a tightly closed container. (P404)

Store in a cool area away from ignition sources and oxidizers.

Do not breathe vapor. (P260)

Use with adequate ventilation.

Do not get in eyes, on skin or clothing. (P262)

Avoid prolonged or repeated exposure.

This product should only be used by persons trained in the safe handling of hazardous chemicals. (P202)

SECTION 8 - EXPOSURE CONTROLS

8.1 - Engineering Controls/PPE

Wash thoroughly after handling. Do not take internally. Eye wash and safety equipment should be readily available. (P264)

8.2 - General Hygiene Considerations

Respiratory Protection: If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), or a risk assessment shows air-purifying respirators are appropriate, use of a NIOSH/MSHA approved air supplied respirator is advised. Use a full-face respirator with multi-purpose combination (US) or type ABEK (EN14387) respirator cartridges in absence of proper environmental control. Always use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Engineering and/or administrative controls should be implemented to reduce exposure.

Material should be handled or transferred in an approved fume hood or with adequate ventilation.

Protective gloves must be worn to prevent skin contact. (P280)

(Polyvinyl alcohol (PVA), viton or equivalent)

Use eye protection tested and approved under the appropriate government standards such as NIOSH (US) or EN 166 (EU).

All recommendations are advisory only and must be evaluated by an industrial hygienist and/or safety officer familiar with the specific situation of anticipated use, such as concentration and amount of the substance in the workplace. Any recommendation should not be construed as offering an approval for any specific use of the product.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear liquid

Odor: Aromatic

Odor Threshold: N/A

pH: N/A

Melting Point: -47.8 °C

Boiling Point: 140 °C

Flash Point: 85 °F (29 °C) (cc)

Evaporation Rate (Butyl Acetate=1): 0.7

Flammability Class: N/A

Lower Flammability Level: 1.1

Upper Flammability Level: 7

Vapor Pressure: 18 mmHg (37.7 °C)

Vapor Density (Air = 1): 3.7 g/L

Specific Gravity: 0.86 g/cm3
SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES  - continued

Solubility in Water: Insoluble
Partition Coefficient: N/A
Autoignition Temperature: 464 °C
Decomposition Temperature: N/A
Viscosity: <0.001 Pas
VOC Content: N/A
Percent Volatile: 99+

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable
Materials to Avoid: Oxidizers
Hazardous Decomposition: Oxides of carbon
Hazardous Polymerization: Will not occur
Condition to Avoid: Heat; Contact with ignition sources

SECTION 11 - TOXICOLOGICAL INFORMATION

Human Health Toxicity
See section 2 for specific toxicological information for the ingredients of this product.
LD50 (Oral): Rat - >2000 mg/kg
LD50 (Dermal): Rabbit - >2000 mg/kg
LC50 (Inhalation): Rat - 9.23 mg/L
No other information related to the toxicological properties of this product is available at this time.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Toxicity
By complying with sections 6 and 7 there should be no release to the environment.
LC50 (Fish): 2 mg/L 96H
EC50 (Aquatic Invertebrate): 75 mg/L 24H
BCF: N/A
No other information related to the ecological properties of this product is available at this time.

SECTION 13 - DISPOSAL CONSIDERATIONS

Recycle or incinerate at any EPA approved facility or dispose in compliance with Federal, State and local regulations. Empty containers must be triple-rinsed prior to disposal.

SECTION 14 - TRANSPORT INFORMATION

Transportation Information (DOT/IATA)
UN Number: UN1307
Class: 3
Packing Group: III
Proper Shipping Name: Xylenes

SDS Date: 2/26/2019
SECTION 14 - TRANSPORT INFORMATION  - continued

Poison by Inhalation: No
Marine Pollutant: No

SECTION 15 - REGULATORY INFORMATION

All components are listed on the TSCA Inventory.

For laboratory, research and development use only. Not for manufacturing or commercial purposes.

In addition to federal and state regulations, local regulations may apply. Check with your local regulatory authorities.

SECTION 16 - OTHER INFORMATION

This document has been designed to meet the requirements of OSHA, ANSI, GHS and CHIPs regulations. Chemicals are classified using the Globally Harmonized System for Classification and Labeling of Chemicals and CLP Regulation (EC) No. 1272/2008.

The statements contained herein are offered for informational purposes only and are based on technical data that we believe to be accurate. The manufacturer will not assume any liability for the accuracy and completeness of this information. Final determination of the suitability of the material is the responsibility of the user. Although certain hazards are described herein, the user should not presume that these are the only hazards that exist. Since conditions and manner of use are outside of the manufacturers control, we make

   NO WARRANTY OF MERCHANTABILITY, EXPRESSED OR IMPLIED, AND ASSUME NO LIABILITY RESULTING FROM ITS USE.

Legend : N/A = Not Available   ND = Not Determined   NR = Not Regulated

Alteration of any information contained herein without written permission from the manufacturer is strictly prohibited.

HMIS/NFPA HAZARD INDEX

0 - Minimal
1 - Slight
2 - Moderate
3 - Serious
4 - Severe

* - Additional Hazard

GHS HAZARD INDEX

Category 1 - Most Severe
Category 5 - Least Severe

**** End of Document ****
SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 - Product Identifiers
Catalog Name: p-Xylenes
Description:

1.2 - Relevant Identified Uses of the Substance or Mixture
Laboratory Chemical Reference Material

1.3 - Supplier Details
Company: AccuStandard, Inc.
125 Market St.
New Haven, CT 06513 USA
Telephone Number: 203-786-5290
Fax: 203-786-5287
Email: edocs@accustandard.com

1.4 - Emergency Telephone Number
Emergency Phone #: AccuStandard, Inc.
1-203-502-7070 (USA)
+001-203-502-7070 (International)
24 hours / 7 days a week

SECTION 2 - HAZARDS IDENTIFICATION

2.1 - GHS Label Elements

Signal Word: Warning

Hazard Codes:
H225 - Highly Flammable (Flammable liquids, category 2)
H312 - Harmful if absorbed through skin. (Acute toxicity, dermal, category 4)
H315 - Irritating to skin. (Skin corrosion/irritation, category 2)
H332 - Harmful if inhaled. (Acute toxicity, inhalation, category 4)
H335 - May be irritating to mucous membrane and upper respiratory system. (Specific target organ toxicity, single exposure; Respiratory tract irritation, category 3)

Precautionary Codes:
P202 - This product should only by used by persons trained in the safe handling of hazardous chemicals.
P233 - Store in a tightly closed container. (P404)
P260 - Do not breathe vapor.
P262 - Do not get in eyes, on skin or clothing.
SECTION 2 - HAZARDS IDENTIFICATION - continued

2.1 - GHS Label Elements - continued

- P264 - Wash thoroughly after handling. Do not take internally. Eye wash and safety equipment should be readily available.
- P280 - Protective gloves must be worn to prevent skin contact.
- P284 - Respiratory Protection: If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), or a risk assessment shows air-purifying respirators are appropriate, use of a NIOSH/MSHA approved air supplied respirator is advised. Use a full-face respirator with multi-purpose combination (US) or type ABEK (EN14387) respirator cartridges in absence of proper environmental control. Always use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Engineering and/or administrative controls should be implemented to reduce exposure.
- P338 - Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers.
- P360 - Skin contact: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

2.2 - Other Hazards

2.2.1 - Symptom of Exposure Health/Environment

Highly Flammable (Flammable liquids, category 2)
May cause gastro-intestinal disturbances and lung irritation, chest pain and edema which may be fatal.
Causes depression of central nervous system.
Narcotic in high concentrations.

2.2.2 - Potential Health Effects

May be irritating to eyes.
Irritating to skin. (Skin corrosion/irritation, category 2)
Harmful if absorbed through skin. (Acute toxicity, dermal, category 4)
May be irritating to mucous membrane and upper respiratory system. (Specific target organ toxicity, single exposure; Respiratory tract irritation, category 3)
Harmful if inhaled. (Acute toxicity, inhalation, category 4)
May be harmful if swallowed. (Acute toxicity, oral, category 5)

2.2.3 - Routes of Entry

Inhalation, ingestion or skin contact.

2.2.4 - Carcinogenicity

This product is or contains a component that is classified (ACGIH, IARC, NTP, OSHA) as probably not a cancer hazard.

SECTION 3 - COMPOSITION / ANALYTES DATA

Description: p-Xylenes
Synonyms: 1,4-Dimethylbenzene
Molecular Weight: 106.16
Molecular Formula: C8H10

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<th>CAS #</th>
<th>% Concentration</th>
<th>ACGIH -TLV (mg/m³)</th>
<th>OSHA -PEL (mg/m³)</th>
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<tr>
<td>p-Xylene</td>
<td>106-42-3</td>
<td>100.000</td>
<td>434</td>
<td>435</td>
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SECTION 4 - FIRST AID MEASURES

4.1 - First Aid Procedures - General
Get medical assistance for all cases of overexposure.

4.2 - Eye Contact
Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. (P338)

4.3 - Skin Contact
Skin contact: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse. (P360)

4.4 - Inhalation
Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

4.5 - Ingestion
Ingestion: Call a physician or poison control center immediately. ONLY induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 - Flammable Properties
Dangerous fire and explosive hazard.
Vapors can travel to a source of ignition and flash back.
Vapors may form explosive mixture with air.
During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

5.2 - Extinguishing Media
Use alcohol foam, carbon dioxide, or dry chemical when fighting fires involving this material.
Water may not effect extinguishment.
Water spray to cool fire-exposed containers and disperse vapors.

5.3 - Protection of Firefighters
As in any fire, wear self-contained breathing apparatus pressure demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 - Spill Response
Wear suitable protective equipment listed under Exposure Controls / Personal Protection. Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards. Contain the release and eliminate its source, if this can be done without risk. Dispose as hazardous waste. Comply with Federal, State and local regulations.

SECTION 7 - HANDLING AND STORAGE

Store in a tightly closed container. (P404)
Store in a cool area away from ignition sources and oxidizers.
Do not breathe vapor. (P260)
Use with adequate ventilation.
Do not get in eyes, on skin or clothing. (P262)
SECTION 7 - HANDLING AND STORAGE  - continued

Avoid prolonged or repeated exposure.

This product should only by used by persons trained in the safe handling of hazardous chemicals. (P202)

SECTION 8 - EXPOSURE CONTROLS

8.1 - Engineering Controls/PPE

Wash thoroughly after handling. Do not take internally. Eye wash and safety equipment should be readily available. (P264)

8.2 - General Hygiene Considerations

Respiratory Protection: If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), or a risk assessment shows air-purifying respirators are appropriate, use of a NIOSH/MSHA approved air supplied respirator is advised. Use a full-face respirator with multi-purpose combination (US) or type ABEK (EN14387) respirator cartridges in absence of proper environmental control. Always use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Engineering and/or administrative controls should be implemented to reduce exposure.

Material should be handled or transferred in an approved fume hood or with adequate ventilation.

Protective gloves must be worn to prevent skin contact. (P280)

(Polyvinyl alcohol (PVA), viton or equivalent)

Use eye protection tested and approved under the appropriate government standards such as NIOSH (US) or EN 166 (EU).

All recommendations are advisory only and must be evaluated by an industrial hygienist and/or safety officer familiar with the specific situation of anticipated use, such as concentration and amount of the substance in the workplace. Any recommendation should not be construed as offering an approval for any specific use of the product.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear liquid
Odor: Aromatic
Odor Threshold: 0.05 ppm
pH: N/A
Melting Point: 12 - 13 °C
Boiling Point: 138 °C
Flash Point: 77 °F (25 °C) (cc)
Evaporation Rate (Butyl Acetate=1): N/A
Flammability Class: N/A
Lower Flammability Level: 1.1
Upper Flammability Level: 7
Vapor Pressure: 9 mmHg (20 °C)
Vapor Density (Air = 1): 3.66
Specific Gravity: 0.861 g/cm3
Solubility in Water: 162 mg/L
Partition Coefficient: log Pow: 3.15
Autoignition Temperature: 528 °C
Decomposition Temperature: N/A
Viscosity: N/A
SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES - continued

VOC Content: N/A
Percent Volatile: N/A

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable
Materials to Avoid: Oxidizers
Hazardous Decomposition: Oxides of carbon
Hazardous Polymerization: Will not occur
Condition to Avoid: Heat; Contact with ignition sources

SECTION 11 - TOXICOLOGICAL INFORMATION

Human Health Toxicity
See section 2 for specific toxicological information for the ingredients of this product.
LD50 (Oral): Rat - 4300 mg/kg
LD50 (Dermal): Rabbit - 1700 mg/kg
LC50 (Inhalation): Rat - 22mg/L 4H
No other information related to the toxicological properties of this product is available at this time.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Toxicity
By complying with sections 6 and 7 there should be no release to the environment.
LC50 (Fish): 18 mg/L 96H
EC50 (Aquatic Invertebrate): 36 mg/L 48H
BCF: N/A
No other information related to the ecological properties of this product is available at this time.

SECTION 13 - DISPOSAL CONSIDERATIONS

Recycle or incinerate at any EPA approved facility or dispose in compliance with Federal, State and local regulations. Empty containers must be triple-rinsed prior to disposal.

SECTION 14 - TRANSPORT INFORMATION

Transportation Information (DOT/IATA)
UN Number: UN1307
Class: 3
Packing Group: III
Proper Shipping Name: Xylenes
Poison by Inhalation: No
Marine Pollutant: No
SECTION 15 - REGULATORY INFORMATION

All components are listed on the TSCA Inventory.

**For laboratory, research and development use only. Not for manufacturing or commercial purposes.**

In addition to federal and state regulations, local regulations may apply. Check with your local regulatory authorities.

SECTION 16 - OTHER INFORMATION

This document has been designed to meet the requirements of OSHA, ANSI, GHS and CHIPS regulations. Chemicals are classified using the Globally Harmonized System for Classification and Labeling of Chemicals and CLP Regulation (EC) No. 1272/2008.

The statements contained herein are offered for informational purposes only and are based on technical data that we believe to be accurate. The manufacturer will not assume any liability for the accuracy and completeness of this information. Final determination of the suitability of the material is the responsibility of the user. Although certain hazards are described herein, the user should not presume that these are the only hazards that exist. Since conditions and manner of use are outside of the manufacturers control, we make

**NO WARRANTY OF MERCHANTABILITY, EXPRESSED OR IMPLIED, AND ASSUME NO LIABILITY RESULTING FROM ITS USE.**

Legend :  N/A = Not Available      ND = Not Determined      NR = Not Regulated

Alteration of any information contained herein without written permission from the manufacturer is strictly prohibited.

HMIS/NFPA HAZARD INDEX

0 - Minimal
1 - Slight
2 - Moderate
3 - Serious
4 - Severe

* - Additional Hazard

GHS HAZARD INDEX

Category 1 - Most Severe
Category 5 - Least Severe

**** End of Document ****