Material Safety Data Sheet

Product: OPAHYDE

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY / UNDERTAKING
   Manufacturer: BioShields - A Division of Tulip Diagnostics Pvt. Ltd.
   Plot No. M – 46, Phase III B,
   Verna Industrial Estate,
   Verna, Goa, 403 722,
   INDIA.
   Product name: OPAHYDE
   Synonyms: 0.55 % ortho – Phthalaldehyde Solution.

2. COMPOSITION/INFORMATION ON INGREDIENTS
   The ingredients at their given percentages in this product are not considered hazardous to your health.

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS Number</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2 - benzenedicarboxaldehyde</td>
<td>643-79-8</td>
<td>&lt; 1</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION
   Emergency overview: May cause eye, skin and respiratory irritation. May elicit an allergic reaction.
   Properties affecting health: May cause sensitization by repeated skin contact.
   Principle routes of exposure:
   - Oral: Not anticipated to be a significant route of occupational exposure.
   - Eye contact: May cause eye irritation and redness.
   - Skin contact: May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
   - Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Exposure can irritate and discolor the tissues of the mouth, esophagus and other tissues of the digestive tract.
   - Inhalation: May cause irritation, including but not limited to discharge, coughing, wheezing tightness of chest and throat, difficulty breathing and stinging sensation in nose and throat. Symptoms are temporary and reversible.
   Physico–chemical properties: No hazards resulting from material as supplied.
   Hazard information:
   - Sensitization: May cause sensitization.
   - Medical conditions aggravated by exposure: Inhalation of vapor may cause asthma – like symptoms (chest discomfort and tightness, difficulty with breathing) as well as aggravate pre – existing asthma.

4. FIRST AID MEASURES
   Eye contact: In the case of contact with eyes, rinse immediately with plenty of water for 15 minutes and seek medical attention.
   Ingestion: Do not induce vomiting. Clean mouth with water and drink afterwards plenty of water.
   Inhalation: Move to fresh air immediately. If experiencing difficulty breathing, seek medical attention.
   Skin contact: Wash contaminated areas thoroughly with soap and water. Remove contaminated clothing and wash before re – use. Get medical attention if irritation develops or persists.

This Document is the property of Tulip Diagnostics (P) Ltd., Goa.
It must be handled as classified and not derived or recreated in whole or in part in any way without permission of the company.
Protection of first-aiders: None.
Notes to physician: Probable damage to the mucosa from oral exposure may contraindicate the use of gastric lavage. OPAHYDE Solution has been reported to cause anaphylactic-like reactions in bladder cancer patients undergoing repeated cystoscopy. OPAHYDE Solution should not be used to reprocess instruments for patients that have shown previous sensitivity to this solution or any of its ingredients.

5. FIRE – FIGHTING MEASURES
Flash point (°F): Not applicable.
Flash point (°C): Not applicable.
Autoignition temperature: Not applicable.
Flammable limits in air - lower (%): Not applicable.
Fire fighting information:
Suitable extinguishing media: Use any extinguishing agent which is suitable for the surrounding fire.
Extinguishing media which must not be used for safety reasons: None.
Specific methods: None.
Special protective equipment for firefighters: Wear self-contained breathing apparatus for fire fighting if necessary.
Hazardous combustion products: None.
Explosivity: None.
Explosion limits:
Lower: None.
Upper: None.

6. ACCIDENTAL RELEASE MEASURES
Personal precautions: Wear eye and skin protection while handling material for clean up. Avoid breathing vapours and/or mists.
Environmental precautions: Do not wash down sewers or waterways.
Methods for cleaning up:
For spill neutralization, sprinkle approximately 25 grams of glycine (free base) powder per gallon of OPAHYDE Solution spill. Thoroughly blend the glycine into the spill using mop or other tools. Allow 5 minute contact for neutralization. Pick up and transfer to properly labeled containers. Dispose of in accordance with all applicable federal, state, and local regulations. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE
Handling:
Technical measures/precautions: Use only in area provided with appropriate exhaust ventilation, a minimum of 10 air exchanges per hour.
Safe handling advice: Wear appropriate personal protection. Avoid contact with skin, eyes and clothing. Remove contaminated clothing and launder before reuse.
Storage:

**Technical measures/storage conditions**: This product should be stored between 59°F (15°C) and 86°F (30°C).

**Incompatible products**: Avoid contact with strong acids and bases. Keep from contact with oxidizing materials.

8. **EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering controls**: Ensure adequate ventilation, a minimum of 10 air exchanges per hour.

**Eye protection**: Eye protection recommended during production of product. Goggles are recommended.

**Hand protection**: Protective gloves recommended when manufacturing product. PVC or other plastic material gloves. Nitrile rubber gloves.

**Skin and body protection**: Wear suitable protective clothing.

**Respiratory protection**: None required.

**Other/general protection**: None required.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance**: Clear liquid.

**Physical state**: Liquid.

**Colour**: Light blue.

**pH**: 7.0 – 7.5

**Odour**: Characteristic.

**Water Miscibility**: Miscible (Clear solution)

10. **STABILITY AND REACTIVITY**

**Chemical stability**: Stable under recommended storage conditions.

**Hazard polymerization**: Hazardous polymerization does not occur.

**Hazardous decomposition products**: Unknown on product.

**Materials to avoid**: Strong acids and strong bases. Stay away from strong oxidizing agents.

**Conditions to avoid**: Extremes of temperature and direct sunlight.

11. **TOXICOLOGICAL INFORMATION**

**Local effects**

**Oral**: Non–toxic.

**Eye irritation**: May cause eye irritation.

**Skin irritation**: May cause skin irritation.

**Inhalation**: Unknown on product.

**Chronic toxicity**

**Oral**: Unknown on product.

**Inhalation**: Unknown on product.

**Dermal**: Unknown on product.

**Specific effects**

**Corrosive effects**: Not corrosive.

**Sensitization**: May elicit an allergic reaction.

**Target organ effects**: Eyes.

**Reproductive effects**: Unknown on product

**Carcinogenic effects**: Unknown on product.

*This Document is the property of Tulip Diagnostics (P) Ltd., Goa. It must be handled as classified and not derived or recreated in whole or in part in any way without permission of the company*
12. ECOLOGICAL INFORMATION

Ecotoxicity effects : This product has no known eco – toxicological effects.
Aquatic toxicity effects : This product has no known aquatic toxicological effects.
Mobility : Unknown on product.
Persistence / degradability : Unknown on product.
Bioaccumulation : Unknown on product.
Degradation : Unknown on product.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products : This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.
Contaminated packaging : Do not re – use empty containers.
Methods for cleaning up : For spill neutralization, sprinkle approximately 25 grams of glycine (free base) powder per gallon of OPAHYDE Solution spill. Thoroughly blend the glycine into the spill using mop or other tools. Allow 5 minute contact for neutralization. Pick up and transfer to properly labeled containers. Dispose of in accordance with all applicable federal, state, and local regulations. Clean contaminated surface thoroughly.

14. TRANSPORT INFORMATION

DOT : Not Applicable
IATA/ICAO : Not Applicable

15. REGULATORY INFORMATION

CAS No. : Not applicable.
Labeling : For External Use Only.
Safety Phrases : Avoid contact with the mucous membrane. In case of contact, wash immediately with plenty of water and seek medical attention.

16. OTHER INFORMATION

Additional advice : None
Literary Reference : None
Disclaimer :
The information and recommendations contained herein are based upon tests believed to be reliable. However, BioShields, A Division of Tulip Diagnostics (P) Ltd. does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage maybe required. BioShields, A Division of Tulip Diagnostics (P) Ltd. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet