

Date Prepared: 01/27/2007

Reviewed On: 01/08/2007

1 Identification of substance:

- **Product name:** Indole
- **Catalog number:** 261185
- **Manufacturer/Supplier:**
 BD Diagnostic Systems
 7 Loveton Circle
 Sparks, MD 21152
 Telephone: (410) 771-0100 or (800) 638-8663
- **Information department:** Technical services
- **Emergency information:**
 In case of a chemical emergency, spill, fire, exposure, or accident contact BD Diagnostic Systems at (410)771-0100 or (800) 638-8663, or ChemTrec at (800) 424-9300.

2 Composition/Data on components:

- **Chemical characterization**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

	isobutanol	62.3%
7647-01-0	hydrochloric acid	32.1%
100-10-7	p-Dimethylaminobenzaldehyde	5.6%

3 Hazards identification

- **Hazard description:**



C Corrosive

- **Information pertaining to particular dangers for man and environment**
 R 10 Flammable.
 R 34 Causes burns.
 R 37 Irritating to respiratory system.
- **Classification system**
 The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **HMIS ratings (scale 0-4)**

HEALTH	3	Health = 3
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

4 First aid measures

- **General information**
 Remove breathing apparatus only after contaminated clothing have been completely removed.
- **After inhalation** Seek medical treatment in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for 15 minutes under running water. Then consult a doctor.
- **After swallowing** Immediately call a doctor.

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 · **Information for doctor** Show this product label or this MSDS.

5 Fire fighting measures

 · **Suitable extinguishing agents**

 CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.

 · **Protective equipment:** No special measures required.

6 Accidental release measures

 · **Person-related safety precautions:** Not required.

 · **Measures for environmental protection:** Wipe up with damp sponge or mop.

 · **Measures for cleaning/collecting:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).

Use neutralizing agent.

 · **Additional information:**

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**

 · **Information for safe handling:** Ensure good ventilation/exhaustion at the workplace.

 · **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

 · **Storage**

 · **Requirements to be met by storerooms and receptacles:** 15 - 30 °C

 · **Information about storage in one common storage facility:**

Store away from oxidizing agents.

Do not store together with alkaline material.

 · **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection

 · **Additional information about design of technical systems:** No further data; see item 7.

 · **Components with limit values that require monitoring at the workplace:**
isobutanol

 TLV 150 mg/m³, 50 ml/m³
7647-01-0 hydrochloric acid

 TLV 7.4 mg/m³, 5 ml/m³

 · **Additional information:** The lists that were valid during the creation were used as basis.

 · **Personal Protective Equipment**

 · **General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

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Wash hands before breaks and at the end of work.
 Avoid contact with the eyes and skin.

• **Breathing equipment:**

In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.

• **Protection of hands:**



Chemical resistant gloves (i.e. nitrile, or equivalent).

• **Eye protection:** Safety glasses

• **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties:

• **General Information**

Form: Liquid
Color: According to product specification
Odor: Characteristic

• **Change in condition**

Melting point/Melting range: Not determined

Boiling point/Boiling range: 85°C

• **Flash point:** 24°C

• **Ignition temperature:** 390.0°C

• **Auto igniting:** Product is not self igniting.

• **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

• **Explosion limits:**

Lower: 1.7 Vol %

Upper: 12.0 Vol %

• **Vapor pressure at 20°C:** 20.0 hPa

• **Density:** Not determined

• **Solubility in / Miscibility with**

Water: Soluble

• **pH-value:** Acidic

• **Solvent content:**

• **Solids content:** 5.6 %

10 Stability and reactivity

• **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

• **Dangerous reactions** No dangerous reactions known

• **Dangerous products of decomposition:**

Nitrogen oxides (NO_x)

Carbon monoxide (CO) and carbon dioxide (CO₂)

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Chlorine (Cl)

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11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

7647-01-0 hydrochloric acid

Oral	LD50	900 mg/kg (rab)
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- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:** Irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Irritant

The product shows the following dangers according to internally approved calculation methods for preparations:

12 Ecological information:

- **Ecotoxicological effects:**

- **Other information:**

The ecological effects have not been thoroughly investigated, but currently none have been identified.

- **General notes:** Water hazard class 2 (Self-assessment): hazardous for water.

13 Disposal considerations

- **Product:**

- **Recommendation**

Must not be disposed of with solid waste.

Must adhere to official regulations.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to state and federal regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **DOT regulations:**



- **Hazard class:** 3

- **Identification number:** UN2924

- **Packing group:** III

- **Proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ISOBUTANOL, HYDROCHLORIC ACID)

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- **Label** 3 + 8
- **Remarks:** This product can be transported using the "small quantity" exception. This package conforms to 49 CFR 173.4. The Hazard Class, Identification number, and Packing group listed above is for informational purposes only.

Land transport ADR/RID (cross-border)



- **ADR/RID class:** 3 (FC) Flammable liquids
- **UN-Number:** 2924
- **Packaging group:** III
- **Description of goods:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ISOBUTANOL, HYDROCHLORIC ACID)

Maritime transport IMDG:



- **IMDG Class:** 3
- **UN Number:** 2924
- **Label** 3 + 8
- **Packaging group:** III
- **EMS Number:** F-E,S-C
- **Marine pollutant:** No
- **Proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ISOBUTANOL, HYDROCHLORIC ACID)

Air transport ICAO-TI and IATA-DGR:



- **ICAO/IATA Class:** 3
- **UN/ID Number:** 2924
- **Label** 3 + 8
- **Packaging group:** III
- **Proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ISOBUTANOL, HYDROCHLORIC ACID)

15 Regulations

SARA Section 355 (extremely hazardous substances)

7647-01-0 hydrochloric acid

SARA Section 313 (specific toxic chemical listings)

7647-01-0 hydrochloric acid

TSCA (Toxic Substances Control Act)

All ingredients are listed.

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· California Proposition 65 - Chemicals known to cause cancer

None of the ingredients is listed.

· California Proposition 65 - Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· California Proposition 65 - Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· California Proposition 65 - Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenicity categories
· IARC (International Agency for Research on Cancer)

7647-01-0 hydrochloric acid

3

· NTP (National Toxicology Program)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· Product related hazard information:

This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR), and the MSDS contains all of the information required by the CPR.

· Hazard symbols:

C Corrosive

· Hazard-determining components of labeling:

hydrochloric acid

isobutanol

· Risk phrases:

10 Flammable.

34 Causes burns.

37 Irritating to respiratory system.

· Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately.

60 This material and its container must be disposed of as hazardous waste.

· National regulations
· Technical instructions (air):

Class	Share in %
III	62.3

· Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.

CDN

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16 Other information:

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we can not guarantee that these are the only hazards that exist.

- **Department issuing MSDS:** Safety and Environment Department
- **Contact:** Technical Service Representative

CDN