

# Material Safety Data Sheet



## Spot Indole Reagent

### 1. Product and company identification

<b>Product name</b>	: Spot Indole Reagent	<b>Code</b>
<b>Trade name</b>	: Spot Indole Reagent	PL.391-10
<b>Material uses</b>	: To be used in the qualitative method to determine the ability of an organism to split indole from the tryptophan molecule.	
	: Pro-Lab Diagnostics 7 Westwood Court Clayhill Industrial Estate, Neston, Cheshire CH64 3UJ, UK Phone: +44 (0)151 353 1613 Fax: +44 (0)151 353 1614	
<b>MSDS authored by</b>	: KMK Regulatory Services inc.	
<b>In case of emergency</b>	: 905-731-0300 –Monday to Friday 8:30 am to 5:00 pm Eastern Standard Time. 416-230-0692 –Outside the above hours.	
<b>Product type</b>	: Liquid.	

### 2. Hazards identification

#### Emergency overview

<b>Color</b>	: Deep yellow solution.
<b>Physical state</b>	: Liquid.
<b>Signal word</b>	: DANGER!
<b>Hazard statements</b>	: MAY BE FATAL IF INHALED. CAUSES SEVERE RESPIRATORY TRACT BURNS. CAUSES EYE AND SKIN BURNS. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
<b>Precautions</b>	: Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Routes of entry** : Dermal contact. Eye contact. Inhalation. Ingestion.

#### Potential acute health effects

<b>Inhalation</b>	: May be fatal if inhaled. Severely corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Ingestion</b>	: May cause burns to mouth, throat and stomach. May be harmful if swallowed.
<b>Skin</b>	: Corrosive to the skin. Causes burns.
<b>Eyes</b>	: Corrosive to eyes. Causes burns.

#### Potential chronic health effects

<b>Chronic effects</b>	: Contains material that may cause target organ damage, based on animal data.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Teratogenicity</b>	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
<b>Fertility effects</b>	: No known significant effects or critical hazards.
<b>Target organs</b>	: Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin, eyes.

#### Over-exposure signs/symptoms



## 2. Hazards identification

- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Ingestion** : Adverse symptoms may include the following:  
stomach pains
- Skin** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Eyes** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

## 3. Composition/information on ingredients

### United States

Name	CAS number	%
Hydrochloric acid	7647-01-0	3 - 5
2-Propenal, 3-[4-(dimethylamino)phenyl]-	6203-18-5	0.1 - 1

### Canada

Name	CAS number	%
Hydrochloric acid	7647-01-0	3 - 5
2-Propenal, 3-[4-(dimethylamino)phenyl]-	6203-18-5	0.1 - 1

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

## 4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Call medical doctor or poison control center immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call medical doctor or poison control center immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

## 5. Fire-fighting measures

- Flammability of the product** : No specific fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
  - Not suitable** : None known.
- Special exposure hazards** : No specific fire or explosion hazard.
- Hazardous decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
halogenated compounds
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

- Personal precautions** : Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
  - Large spill** : Stop leak if without risk. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## 7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Store at 2°C to 30°C (36°F to 86°F).

## 8. Exposure controls/personal protection

### United States

Ingredient	Exposure limits
Hydrochloric acid	<b>ACGIH TLV (United States, 1/2009).</b> C: 2 ppm <b>NIOSH REL (United States, 6/2009).</b> CEIL: 7 mg/m <sup>3</sup> CEIL: 5 ppm <b>OSHA PEL (United States, 11/2006).</b> CEIL: 7 mg/m <sup>3</sup> CEIL: 5 ppm

### Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	Notations
Hydrochloric acid	US ACGIH 1/2009	-	-	-	-	-	-	2	-	-	[3]
	AB 4/2009	-	-	-	-	-	-	2	3	-	
	BC 9/2009	-	-	-	-	-	-	2	-	-	
	ON 8/2008	-	-	-	-	-	-	2	-	-	
	QC 6/2008	-	-	-	5	7.5	-	-	-	-	

[3]Skin sensitization

### **Consult local authorities for acceptable exposure limits.**

**Recommended monitoring procedures** : Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

**Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

**Hygiene measures** : Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

### Personal protection

**Respiratory** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Wear an appropriate NIOSH approved respirator if concentration levels exceed the safe exposure limits.

**Hands** : Use gloves appropriate for work or task being performed. Recommended: Nitrile gloves.

**Eyes** : Safety eyewear should be used when there is a likelihood of exposure. Recommended: Splash goggles.

**Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Rubber apron and/on long sleeves.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

<b>Physical state</b>	: Liquid.
<b>Color</b>	: Deep yellow solution.
<b>pH</b>	: <1
<b>Solubility</b>	: Easily soluble in the following materials: cold water, hot water, Methanol and acetone.

## 10. Stability and reactivity

<b>Chemical stability</b>	: The product is stable.
<b>Conditions to avoid</b>	: No specific data.
<b>Materials to avoid</b>	: Highly reactive or incompatible with the following materials: metals and alkalis. Reactive or incompatible with the following materials: oxidizing materials.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Hazardous polymerization</b>	: Under normal conditions of storage and use, hazardous polymerization will not occur.

## 11. Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Hydrochloric acid	LC50 Inhalation Gas. LD50 Oral	Rat Rat	1562 ppm 900 mg/kg	4 hours -

### Chronic toxicity

#### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Hydrochloric acid	A4	3	-	-	-	-

## 12. Ecological information

**Environmental effects** : No known significant effects or critical hazards.

### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Hydrochloric acid	Acute LC50 240000 ug/L Marine water Acute LC50 282000 ug/L Fresh water	Crustaceans - Carcinus maenas - Adult Fish - Gambusia affinis - Adult	48 hours 96 hours
2-Propenal, 3-[4-(dimethylamino)phenyl]-	Acute LC50 5900 to 6470 ug/L Fresh water	Fish - Pimephales promelas - 33 days - 17 mm - 0.059 g	96 hours

**Other adverse effects** : No known significant effects or critical hazards.





## 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.**

## 14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	UN1789	HYDROCHLORIC ACID solution	8	II		Check for applicable exemption under this transport mode.
<b>TDG Classification</b>	UN1789	HYDROCHLORIC ACID solution	8	II		Check for applicable exemption under this transport mode.
<b>IMDG Class</b>	UN1789	HYDROCHLORIC ACID solution	8	II		Check for applicable exemption under this transport mode.
<b>IATA-DGR Class</b>	UN1789	HYDROCHLORIC ACID solution	8	II		Check for applicable exemption under this transport mode.

PG\* : Packing group

**AERG : 157**

Exemption to the above classification may apply.

## 15 . Regulatory information

### United States

#### **HCS Classification**

: Highly toxic material  
Corrosive material  
Target organ effects

#### **U.S. Federal regulations**

: **TSCA 8(a) IUR:** Water

**United States inventory (TSCA 8b):** All components are listed or exempted.

**SARA 302/304/311/312 extremely hazardous substances:** Hydrochloric acid

**SARA 302/304 emergency planning and notification:** Hydrochloric acid

**SARA 302/304/311/312 hazardous chemicals:** Hydrochloric acid

**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:**

Hydrochloric acid: Sudden release of pressure, Immediate (acute) health hazard, Delayed (chronic) health hazard

**Clean Water Act (CWA) 307:** No products were found.

**Clean Water Act (CWA) 311:** Hydrochloric acid

**Clean Air Act (CAA) 112 accidental release prevention:** Hydrochloric acid

**Clean Air Act (CAA) 112 regulated flammable substances:** Hydrochloric acid

**Clean Air Act (CAA) 112 regulated toxic substances:** Hydrochloric acid

#### **Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)**

: Listed

#### **Clean Air Act Section 602 Class I Substances**

: Not listed

#### **Clean Air Act Section 602 Class II Substances**

: Not listed

#### **DEA List I Chemicals (Precursor Chemicals)**

: Not listed

#### **DEA List II Chemicals (Essential Chemicals)**

: Listed

## 15 . Regulatory information

### SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
<b>Form R - Reporting requirements</b>	: Hydrochloric acid	7647-01-0	3 - 5
<b>Supplier notification</b>	: Hydrochloric acid	7647-01-0	3 - 5

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

- State regulations**
- : **Connecticut Carcinogen Reporting:** None of the components are listed.
  - : **Connecticut Hazardous Material Survey:** None of the components are listed.
  - : **Florida substances:** None of the components are listed.
  - : **Illinois Chemical Safety Act:** None of the components are listed.
  - : **Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.
  - : **Louisiana Reporting:** None of the components are listed.
  - : **Louisiana Spill:** None of the components are listed.
  - : **Massachusetts Spill:** None of the components are listed.
  - : **Massachusetts Substances:** The following components are listed: Hydrochloric acid
  - : **Michigan Critical Material:** None of the components are listed.
  - : **Minnesota Hazardous Substances:** None of the components are listed.
  - : **New Jersey Hazardous Substances:** The following components are listed:  
Hydrochloric acid
  - : **New Jersey Spill:** None of the components are listed.
  - : **New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.
  - : **New York Acutely Hazardous Substances:** The following components are listed:  
Hydrochloric acid
  - : **New York Toxic Chemical Release Reporting:** None of the components are listed.
  - : **Pennsylvania RTK Hazardous Substances:** The following components are listed:  
Hydrochloric acid
  - : **Rhode Island Hazardous Substances:** None of the components are listed.

### California Prop. 65

No products were found.

### Canada

- WHMIS (Canada)**
- : Class D-1A: Material causing immediate and serious toxic effects (Very toxic).
  - : Class D-2B: Material causing other toxic effects (Toxic).
  - : Class E: Corrosive material

- Canadian lists**
- : **CEPA Toxic substances:** None of the components are listed.
  - : **Canadian ARET:** None of the components are listed.
  - : **Canadian NPRI:** The following components are listed: Hydrochloric acid
  - : **Alberta Designated Substances:** None of the components are listed.
  - : **Ontario Designated Substances:** None of the components are listed.
  - : **Quebec Designated Substances:** None of the components are listed.

- Canada inventory**
- : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

### International regulations

- International lists**
- : **Australia inventory (AICS):** Not determined.
  - : **China inventory (IECSC):** All components are listed or exempted.
  - : **Japan inventory:** All components are listed or exempted.
  - : **Korea inventory:** Not determined.
  - : **New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
  - : **Philippines inventory (PICCS):** All components are listed or exempted.

- Chemical Weapons Convention List Schedule I Chemicals**
- : Not listed

## 15 . Regulatory information

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

## 16 . Other information

### United States

**Label requirements** : MAY BE FATAL IF INHALED. CAUSES SEVERE RESPIRATORY TRACT BURNS. CAUSES EYE AND SKIN BURNS. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

**Hazardous Material Information System (U.S.A.)** :

Health	*	3
Flammability		0
Physical hazards		0

**Caution:** HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**National Fire Protection Association (U.S.A.)** :



### Canada

**WHMIS (Canada)** :



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### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability 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 cannot guarantee that these are the only hazards that exist.