

# ***Chem-Impex International Inc.***

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**Tel: (630) 766-2112**

E-mail: [sales@chemimpex.com](mailto:sales@chemimpex.com)

**Shipping and Correspondence:**

935 Dillon Drive  
Wood Dale, IL 60191 USA

**Fax: (630) 766-2218**

Web site: [www.chemimpex.com](http://www.chemimpex.com)

**Manufacturing site:**

825 Dillon Drive  
Wood Dale, IL 60191 USA

## **S A F E T Y   D A T A   S H E E T**

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### **SECTION 1.   CHEMICAL IDENTIFICATION**

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CATALOG #:	49312
NAME:	2-Chlorobenzaldehyde
SYNONYMS:	<i>o</i> -Chlorobenzaldehyde
24 HOUR EMERGENCY TELEPHONE:	(800) 535-5053(USA)  352-323-3500 (INTERNATIONAL)
TO REQUEST AN MSDS:	(800) 869-9290
CUSTOMER SERVICE:	(630) 766-2112

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### **SECTION 2.   HAZARDS IDENTIFICATION**

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#### **CLASSIFICATION OF THE SUBSTANCE OR MIXTURE**

#### **GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)**

SKIN CORROSION (CATEGORY 1B), H314  
SERIOUS EYE DAMAGE (CATEGORY 1), H318  
SKIN SENSITISATION (CATEGORY 1), H317

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

#### **GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS**

PICTOGRAM



SIGNAL WORD

DANGER

**HAZARD STATEMENT(S)**

H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.  
H317 MAY CAUSE AN ALLERGIC SKIN REACTION.

**PRECAUTIONARY STATEMENT(S)**

P261 AVOID BREATHING MIST OR VAPORS.  
P264 WASH SKIN THOROUGHLY AFTER HANDLING.  
P272 CONTAMINATED WORK CLOTHING SHOULD NOT BE ALLOWED OUT OF THE WORKPLACE.  
P280 WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION.  
P301 + P330 + P331 IF SWALLOWED: RINSE MOUTH. DO NOT INDUCE VOMITING.  
P303 + P361 + P353 IF ON SKIN (OR HAIR): REMOVE/ TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/ SHOWER.  
P304 + P340 + P310 IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING. IMMEDIATELY CALL A POISON CENTER/ DOCTOR.  
P305 + P351 + P338 + P310 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. IMMEDIATELY CALL A POISON CENTER/ DOCTOR.  
P333 + P313 IF SKIN IRRITATION OR RASH OCCURS: GET MEDICAL ADVICE/ ATTENTION.  
P363 WASH CONTAMINATED CLOTHING BEFORE REUSE.  
P405 STORE LOCKED UP.  
P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

**HAZARDS NOT OTHERWISE CLASSIFIED (HNOC) OR NOT COVERED BY GHS** NONE

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

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MF: C<sub>7</sub>H<sub>5</sub>ClO  
MW: 140.57  
CAS-NO. 89-98-5  
PURITY: ≥ 99% (GC)

**HAZARDOUS COMPONENTS**

COMPONENT	CLASSIFICATION	CONCENTRATION
<b>2-CHLOROBENZALDEHYDE</b>		
	SKIN CORR. 1B; EYE DAM. 1; SKIN SENS. 1; H314, H318, H317	<= 100 %

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

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**SECTION 4. FIRST-AID MEASURES**

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**DESCRIPTION OF FIRST AID MEASURES**

<b>GENERAL ADVICE</b>	FIRST AIDERS NEED TO PROTECT THEMSELVES. SHOW THIS MATERIAL SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.
<b>IF INHALED</b>	AFTER INHALATION: FRESH AIR. CALL IN PHYSICIAN.
<b>IN CASE OF SKIN CONTACT</b>	IN CASE OF SKIN CONTACT: TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/ SHOWER. CALL A PHYSICIAN IMMEDIATELY.
<b>IN CASE OF EYE CONTACT</b>	AFTER EYE CONTACT: RINSE OUT WITH PLENTY OF WATER. IMMEDIATELY CALL IN OPHTHALMOLOGIST. REMOVE CONTACT LENSES.
<b>IF SWALLOWED</b>	AFTER SWALLOWING: MAKE VICTIM DRINK WATER (TWO GLASSES AT MOST), AVOID VOMITING (RISK OF PERFORATION). CALL A PHYSICIAN IMMEDIATELY. DO NOT ATTEMPT TO NEUTRALISE.
<b>MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED</b>	THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11
<b>INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED</b>	NO DATA AVAILABLE

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**SECTION 5. FIRE AND EXPLOSION DATA**

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**EXTINGUISHING MEDIA**

**SUITABLE** SUITABLE EXTINGUISHING MEDIA

<b>EXTINGUISHING MEDIA</b>	WATER FOAM CARBON DIOXIDE (CO <sub>2</sub> ) DRY POWDER  UNSUITABLE EXTINGUISHING MEDIA FOR THIS SUBSTANCE/MIXTURE NO LIMITATIONS OF EXTINGUISHING AGENTS ARE GIVEN.
<b>SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE</b>	CARBON OXIDES HYDROGEN CHLORIDE GAS COMBUSTIBLE. VAPORS ARE HEAVIER THAN AIR AND MAY SPREAD ALONG FLOORS. FORMS EXPLOSIVE MIXTURES WITH AIR ON INTENSE HEATING. DEVELOPMENT OF HAZARDOUS COMBUSTION GASES OR VAPOURS POSSIBLE IN THE EVENT OF FIRE.
<b>ADVICE FOR FIREFIGHTERS</b>	STAY IN DANGER AREA ONLY WITH SELF-CONTAINED BREATHING APPARATUS. PREVENT SKIN CONTACT BY KEEPING A SAFE DISTANCE OR BY WEARING SUITABLE PROTECTIVE CLOTHING.
<b>FURTHER INFORMATION</b>	SUPPRESS (KNOCK DOWN) GASES/VAPORS/MISTS WITH A WATER SPRAY JET. PREVENT FIRE EXTINGUISHING WATER FROM CONTAMINATING SURFACE WATER OR THE GROUND WATER SYSTEM.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

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<b>PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES</b>	ADVICE FOR NON-EMERGENCY PERSONNEL: DO NOT BREATHE VAPORS, AEROSOLS. AVOID SUBSTANCE CONTACT. ENSURE ADEQUATE VENTILATION. EVACUATE THE DANGER AREA, OBSERVE EMERGENCY PROCEDURES, CONSULT AN EXPERT. FOR PERSONAL PROTECTION SEE SECTION 8.
<b>ENVIRONMENTAL PRECAUTIONS</b>	DO NOT LET PRODUCT ENTER DRAINS.
<b>METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP</b>	COVER DRAINS. COLLECT, BIND, AND PUMP OFF SPILLS. OBSERVE POSSIBLE MATERIAL RESTRICTIONS (SEE SECTIONS 7 AND 10). DISPOSE OF PROPERLY. CLEAN UP AFFECTED AREA.
<b>REFERENCE TO OTHER SECTIONS</b>	FOR DISPOSAL SEE SECTION 13.

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## SECTION 7. HANDLING AND STORAGE

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<b>PRECAUTIONS FOR SAFE HANDLING</b>	FOR PRECAUTIONS SEE SECTION 2.2.
<b>CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES</b>	TIGHTLY CLOSED. Store at 2 – 8 °C
<b>SPECIFIC END USE(S)</b>	APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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### **CONTROL PARAMETERS**

#### **COMPONENTS WITH WORKPLACE CONTROL PARAMETERS**

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES.

### **EXPOSURE CONTROLS**

#### **APPROPRIATE ENGINEERING CONTROLS**

IMMEDIATELY CHANGE CONTAMINATED CLOTHING. APPLY PREVENTIVE SKIN PROTECTION. WASH HANDS AND FACE AFTER WORKING WITH SUBSTANCE.

### **PERSONAL PROTECTIVE EQUIPMENT**

#### **EYE/FACE PROTECTION**

USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU). TIGHTLY FITTING SAFETY GOGGLES.

#### **SKIN PROTECTION**

HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS.

#### **BODY PROTECTION**

COMPLETE SUIT PROTECTING AGAINST CHEMICALS, THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.

**RESPIRATORY PROTECTION**

RECOMMENDED FILTER TYPE: FILTER TYPE ABEK  
THE ENTREPRENEUR HAS TO ENSURE THAT  
MAINTENANCE, CLEANING AND TESTING OF  
RESPIRATORY PROTECTIVE DEVICES ARE CARRIED  
OUT ACCORDING TO THE INSTRUCTIONS OF THE  
PRODUCER.  
THESE MEASURES HAVE TO BE PROPERLY  
DOCUMENTED.  
REQUIRED WHEN VAPOURS/AEROSOLS ARE  
GENERATED.  
OUR RECOMMENDATIONS ON FILTERING  
RESPIRATORY PROTECTION ARE BASED ON THE  
FOLLOWING STANDARDS: DIN EN 143, DIN 14387 AND  
OTHER ACCOMPANYING STANDARDS RELATING TO  
THE USED RESPIRATORY PROTECTION SYSTEM.

**CONTROL OF ENVIRONMENTAL EXPOSURE**

DO NOT LET PRODUCT ENTER DRAINS.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

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**INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE	CLEAR, COLORLESS LIQUID
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	9 - 12 °C
INITIAL BOILING POINT AND BOILING RANGE	208 - 215 °C
FLASH POINT	87 °C
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE
VAPOUR PRESSURE	< 0.1 HPA AT 20 °C
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	1.25 G/CM <sup>3</sup> AT 25 °C
WATER SOLUBILITY PARTITION COEFFICIENT: N-OCTANOL/WATER	SOLUBLE IN ACETONE, BENZENE, ETHER AND ALCOHOL. LOG POW: 2.44 AT 25 °C - BIOACCUMULATION IS NOT EXPECTED.
AUTO-IGNITION TEMPERATURE	360 °C AT 1,000 HPA - DIN 51794
DECOMPOSITION TEMPERATURE	NO DATA AVAILABLE
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NO DATA AVAILABLE

OXIDIZING PROPERTIES NO DATA AVAILABLE

**OTHER SAFETY  
INFORMATION** NO DATA AVAILABLE

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## **SECTION 10. STABILITY AND REACTIVITY**

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**REACTIVITY** FORMS EXPLOSIVE MIXTURES WITH AIR ON INTENSE HEATING.  
A RANGE FROM APPROX. 15 KELVIN BELOW THE FLASH POINT IS TO BE RATED AS CRITICAL.

**CHEMICAL STABILITY** THE PRODUCT IS CHEMICALLY STABLE UNDER STANDARD AMBIENT CONDITIONS.

**POSSIBILITY OF  
HAZARDOUS  
REACTIONS** VIOLENT REACTIONS POSSIBLE WITH:  
OXIDIZING AGENTS  
BASES  
REDUCING AGENTS

**CONDITIONS TO  
AVOID** STRONG HEATING.

**INCOMPATIBLE  
MATERIALS** NO DATA AVAILABLE

**HAZARDOUS  
DECOMPOSITION  
PRODUCTS** IN THE EVENT OF FIRE: SEE SECTION 5

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

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### **INFORMATION ON TOXICOLOGICAL EFFECTS**

**ACUTE TOXICITY** LD50 ORAL - RAT - FEMALE - 3,150 MG/KG  
(OECD TEST GUIDELINE 401)

LC50 INHALATION - RAT - 4 H - > 1.203 MG/L - VAPOR  
(OECD TEST GUIDELINE 403)  
INHALATION: CORROSIVE TO RESPIRATORY SYSTEM.  
SYMPTOMS: MUCOSAL IRRITATIONS, COUGH,  
SHORTNESS OF BREATH

DERMAL: NO DATA AVAILABLE

NO DATA AVAILABLE

<b>SKIN CORROSION/IRRITATION</b>	SKIN - RABBIT RESULT: CORROSIVE - 4 H (OECD TEST GUIDELINE 404) REMARKS: (REGULATION (EC) NO 1272/2008, ANNEX VI)
<b>SERIOUS EYE DAMAGE/EYE IRRITATION</b>	REMARKS: CAUSES SERIOUS EYE DAMAGE.
<b>RESPIRATORY OR SKIN SENSITISATION</b>	LOCAL LYMPH NODE ASSAY (LLNA) - MOUSE RESULT: POSITIVE (OECD TEST GUIDELINE 429)
<b>GERM CELL MUTAGENICITY</b>	TEST TYPE: MUTAGENICITY (MAMMAL CELL TEST): MICRONUCLEUS. TEST SYSTEM: CHINESE HAMSTER FIBROBLASTS METABOLIC ACTIVATION: WITH AND WITHOUT METABOLIC ACTIVATION RESULT: NEGATIVE REMARKS: (ECHA) TEST TYPE: AMES TEST TEST SYSTEM: S. TYPHIMURIUM METABOLIC ACTIVATION: WITH AND WITHOUT METABOLIC ACTIVATION RESULT: NEGATIVE REMARKS: (ECHA)  TEST TYPE: MICRONUCLEUS TEST SPECIES: MOUSE CELL TYPE: RED BLOOD CELLS (ERYTHROCYTES) APPLICATION ROUTE: INTRAPERITONEAL INJECTION  RESULT: NEGATIVE REMARKS: (ECHA)
<b>CARCINOGENICITY</b>	
IARC:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC.
NTP:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.
OSHA:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS ON OSHA'S LIST OF REGULATED CARCINOGENS.
<b>REPRODUCTIVE TOXICITY</b>	NO DATA AVAILABLE
<b>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE</b>	NO DATA AVAILABLE



**SPECIFIC TARGET  
ORGAN TOXICITY -  
REPEATED EXPOSURE**

NO DATA AVAILABLE

**ASPIRATION HAZARD**

NO DATA AVAILABLE

**ADDITIONAL  
INFORMATION**

RTECS: NOT AVAILABLE

REPEATED DOSE TOXICITY - RAT - MALE AND FEMALE  
- ORAL - NOAEL (NO OBSERVED ADVERSE EFFECT  
LEVEL) - > 125 MG/KG

REPEATED DOSE TOXICITY - RAT - FEMALE - ORAL -  
NOAEL (NO OBSERVED ADVERSE EFFECT LEVEL) - 40  
MG/KG

BURNING SENSATION, COUGH, WHEEZING,  
LARYNGITIS, SHORTNESS OF BREATH, SPASM,  
INFLAMMATION AND EDEMA OF THE LARYNX, SPASM,  
INFLAMMATION AND EDEMA OF THE BRONCHI,  
PNEUMONITIS, PULMONARY EDEMA, MATERIAL IS  
EXTREMELY DESTRUCTIVE TO TISSUE OF THE  
MUCOUS MEMBRANES AND UPPER RESPIRATORY  
TRACT, EYES, AND SKIN. TO THE BEST OF OUR  
KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND  
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN  
THOROUGHLY INVESTIGATED.

HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL  
HYGIENE AND SAFETY PRACTICE.

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**SECTION 12. ECOLOGICAL INFORMATION**

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**TOXICITY**

**TOXICITY TO FISH**

STATIC TEST LC50 - DANIO RERIO (ZEBRA FISH) - 14.83  
MG/L - 96 H

(OECD TEST GUIDELINE 203)

**TOXICITY TO ALGAE**

STATIC TEST NOEC - DESMODESMUS SUBSPICATUS

(GREEN ALGAE) - 2.25 MG/L - 72 H

(OECD TEST GUIDELINE 201)

STATIC TEST ERC50 - DESMODESMUS SUBSPICATUS

(GREEN ALGAE) - 16.8 MG/L - 72 H

(OECD TEST GUIDELINE 201)

**PERSISTENCE AND DEGRADABILITY**

**BIODEGRADABILITY**

RESULT: 100% - INHERENTLY BIODEGRADABLE.

(OECD TEST GUIDELINE 302B)

<b>BIOACCUMULATIVE POTENTIAL</b>	NO DATA AVAILABLE
<b>MOBILITY IN SOIL</b>	NO DATA AVAILABLE
<b>RESULTS OF PBT AND VPVB ASSESSMENT</b>	PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED
<b>OTHER ADVERSE EFFECTS</b>	DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

### **SECTION 13. DISPOSAL CONSIDERATIONS**

#### **WASTE TREATMENT METHODS**

<b>PRODUCT</b>	WASTE MATERIAL MUST BE DISPOSED OF IN ACCORDANCE WITH THE NATIONAL AND LOCAL REGULATIONS. LEAVE CHEMICALS IN ORIGINAL CONTAINERS. NO MIXING WITH OTHER WASTE. HANDLE UNCLEANNED CONTAINERS LIKE THE PRODUCT ITSELF.
<b>CONTAMINATED PACKAGING</b>	DISPOSE OF AS UNUSED PRODUCT.

### **SECTION 14. TRANSPORT INFORMATION**

#### **DOT (US)**

PROPER SHIPPING NAME:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (2-Chlorobenzaldehyde)
UN NUMBER:	3265
CLASS:	8
PACKING GROUP:	III
REPORTABLE QUANTITY (RQ):	
POISON INHALATION HAZARD:	NO

#### **IMDG**

PROPER SHIPPING NAME:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (2-Chlorobenzaldehyde)
UN NUMBER:	3265
CLASS:	8
PACKING GROUP:	III
EMS-NO:	F-A, S-B

#### **IATA**

PROPER SHIPPING NAME: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (2-Chlorobenzaldehyde)  
UN NUMBER: 3265  
CLASS: 8  
PACKING GROUP: III

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## SECTION 15. REGULATORY INFORMATION

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**SARA 302 COMPONENTS** NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III, SECTION 302.

**SARA 313 COMPONENTS** THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.

**SARA 311/312 HAZARDS** FIRE HAZARD. ACUTE HEALTH HAZARD

**MASSACHUSETTS RIGHT TO KNOW COMPONENTS**

NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT.

**PENNSYLVANIA RIGHT TO KNOW COMPONENTS**

	CAS-NO.	REVISION DATE
2-Chlorobenzaldehyde	89-98-5	

**NEW JERSEY RIGHT TO KNOW COMPONENTS**

	CAS-NO.	REVISION DATE
2-Chlorobenzaldehyde	89-98-5	

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## SECTION 16. OTHER INFORMATION

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**FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.**

H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.  
H317 MAY CAUSE AN ALLERGIC SKIN REACTION.

**MSDS LEGEND**

MW: MOLECULAR WEIGHT  
MF: MOLECULAR FORMULA  
VOC: VOLATILE ORGANIC COMPOUNDS  
ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGINISTS  
CAS: CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER

OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION  
PEL: PERMISSIBLE EXPOSURE LIMIT (OSHA)  
TLV: THRESHOLD LIMIT VALUE (ACGIH)  
IMPORTANT:

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