

# *Chem-Impex International Inc.*

---

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

## SAFETY DATA SHEET

---

### SECTION 1. CHEMICAL IDENTIFICATION

---

CATALOG #:	34637
NAME:	2-Undecanone
SYNONYMS:	Methyl nonyl ketone
24 HOUR EMERGENCY TELEPHONE:	(800) 535-5053(USA) 352-323-3500 (INTERNATIONAL)
TO REQUEST AN MSDS:	(800) 869-9290
CUSTOMER SERVICE:	(630) 766-2112

### SECTION 2. HAZARDS IDENTIFICATION

---

#### CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

**GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)**  
FLAMMABLE LIQUIDS (CATEGORY 4), H227  
SHORT-TERM (ACUTE) AQUATIC HAZARD (CATEGORY 1), H400  
LONG-TERM (CHRONIC) AQUATIC HAZARD (CATEGORY 1), H410

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

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



SIGNAL WORD                      WARNING

**HAZARD STATEMENT(S)**

H227                                  COMBUSTIBLE LIQUID.  
H410                                  VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING  
EFFECTS.

**PRECAUTIONARY STATEMENT(S)**

P210                                  KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT  
SURFACES. NO SMOKING.  
P273                                  AVOID RELEASE TO THE ENVIRONMENT.  
P280                                  WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE  
PROTECTION/ FACE PROTECTION.  
P370 + P378                      IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR  
ALCOHOL-RESISTANT FOAM FOR EXTINCTION.  
P391                                  COLLECT SPILLAGE.  
P403 + P235                      STORE IN A WELL-VENTILATED PLACE. KEEP COOL.  
P501                                  DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED  
WASTE DISPOSAL PLANT.

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

---

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

---

MF:                                      C<sub>11</sub>H<sub>22</sub>O  
MW:                                      170.30  
CAS-NO.                                112-12-9  
PURITY:                                ≥ 98% (GC)

**HAZARDOUS COMPONENTS**

COMPONENT	CLASSIFICATION	CONCENTRATION
2-Undecanone	FLAM. LIQ. 4; AQUATIC ACUTE 1; AQUATIC CHRONIC 1; H227, H400, H410 M-FACTOR - AQUATIC ACUTE: 1	<= 100 %

---

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

---

#### **SECTION 4. FIRST-AID MEASURES**

---

##### **DESCRIPTION OF FIRST AID MEASURES**

<b>GENERAL ADVICE</b>	CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.MOVE OUT OF DANGEROUS AREA.
<b>IF INHALED</b>	IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN.
<b>IN CASE OF SKIN CONTACT</b>	WASH OFF WITH SOAP AND PLENTY OF WATER. CONSULT A PHYSICIAN.
<b>IN CASE OF EYE CONTACT</b>	RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND CONSULT A PHYSICIAN.
<b>IF SWALLOWED</b>	DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.
<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

---

#### **SECTION 5. FIRE AND EXPLOSION DATA**

---

##### **EXTINGUISHING MEDIA**

<b>SUITABLE EXTINGUISHING MEDIA</b>	USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY CHEMICAL OR CARBON DIOXIDE.
<b>SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE</b>	CARBON OXIDES

<b>ADVICE FOR FIREFIGHTERS</b>	WEAR SELF CONTAINED BREATHING APPARATUS FOR FIRE FIGHTING IF NECESSARY.
<b>FURTHER INFORMATION</b>	USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

---

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

---

<b>PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES</b>	USE PERSONAL PROTECTIVE EQUIPMENT. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. REMOVE ALL SOURCES OF IGNITION. BEWARE OF VAPOURS ACCUMULATING TO FORM EXPLOSIVE CONCENTRATIONS. VAPOURS CAN ACCUMULATE IN LOW AREAS. FOR PERSONAL PROTECTION SEE SECTION 8.
<b>ENVIRONMENTAL PRECAUTIONS</b>	PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.
<b>METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP</b>	CONTAIN SPILLAGE, AND THEN COLLECT WITH AN ELECTRICALLY PROTECTED VACUUM CLEANER OR BY WETBRUSHING AND PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL REGULATIONS (SEE SECTION 13). KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL.
<b>REFERENCE TO OTHER SECTIONS</b>	FOR DISPOSAL SEE SECTION 13.

---

## **SECTION 7. HANDLING AND STORAGE**

---

<b>PRECAUTIONS FOR SAFE HANDLING</b>	AVOID CONTACT WITH SKIN AND EYES. AVOID INHALATION OF VAPOUR OR MIST. KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING. TAKE MEASURES TO PREVENT THE BUILD UP OF ELECTROSTATIC CHARGE. FOR PRECAUTIONS SEE SECTION 2.2.
<b>CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES</b>	KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE. CONTAINERS WHICH ARE OPENED MUST BE CAREFULLY RESEALED AND KEPT UPRIGHT TO PREVENT LEAKAGE.

Store at RT

**SPECIFIC END USE(S)**

APART FROM THE USES MENTIONED IN SECTION 1.2  
NO OTHER SPECIFIC USES ARE STIPULATED.

---

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

---

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

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES.

**EXPOSURE CONTROLS**

**APPROPRIATE  
ENGINEERING  
CONTROLS** HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE  
AND SAFETY PRACTICE. WASH HANDS BEFORE BREAKS AND  
AT THE END OF WORKDAY.

**PERSONAL PROTECTIVE EQUIPMENT**

**EYE/FACE  
PROTECTION** SAFETY GLASSES WITH SIDE-SHIELDS CONFORMING TO  
EN166 USE EQUIPMENT FOR EYE PROTECTION TESTED AND  
APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS  
SUCH AS NIOSH (US) OR EN 166(EU).

**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.

SPLASH CONTACT  
MATERIAL: BUTYL-RUBBER  
MINIMUM LAYER THICKNESS: 0.3 MM  
BREAK THROUGH TIME: 30 MIN  
MATERIAL TESTED: BUTOJECT (KCL 897, SIZE M)

IF USED IN SOLUTION, OR MIXED WITH OTHER SUBSTANCES,  
AND UNDER CONDITIONS WHICH DIFFER FROM EN 374,  
CONTACT THE SUPPLIER OF THE CE APPROVED GLOVES. THIS  
RECOMMENDATION IS ADVISORY ONLY AND MUST BE  
EVALUATED BY AN INDUSTRIAL HYGIENIST AND SAFETY  
OFFICER FAMILIAR WITH THE SPECIFIC SITUATION OF  
ANTICIPATED USE BY OUR CUSTOMERS. IT SHOULD NOT BE  
CONSTRUED AS OFFERING AN APPROVAL FOR ANY SPECIFIC  
USE SCENARIO.

**BODY  
PROTECTION** IMPERVIOUS CLOTHING, THE TYPE OF PROTECTIVE  
EQUIPMENT MUST BE SELECTED ACCORDING TO THE  
CONCENTRATION AND AMOUNT OF THE DANGEROUS  
SUBSTANCE AT THE SPECIFIC WORKPLACE.

<b>RESPIRATORY PROTECTION</b>	WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULLFACE RESPIRATOR WITH MULTI-PURPOSE COMBINATION (US) OR TYPE ABEK (EN 14387) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR. USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).
<b>CONTROL OF ENVIRONMENTAL EXPOSURE</b>	PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

---

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

---

### **INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE	Colorless to light yellow liquid
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	
INITIAL BOILING POINT AND BOILING RANGE	
FLASH POINT	
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE
VAPOUR PRESSURE	< 1 HPA AT 20 C
VAPOUR DENSITY	5.88 - (AIR = 1.0)
RELATIVE DENSITY	
WATER SOLUBILITY	NO DATA AVAILABLE
PARTITION COEFFICIENT: N- OCTANOL/WATER	LOG POW: 4.136 - THE PRECEDING DATA, OR INTERPRETATION OF DATA, WAS DETERMINED USING QUANTITATIVE STRUCTURE ACTIVITY RELATIONSHIP (QSAR) MODELING.
AUTO-IGNITION TEMPERATURE	NO DATA AVAILABLE
DECOMPOSITION TEMPERATURE	NO DATA AVAILABLE
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NO DATA AVAILABLE
OXIDIZING PROPERTIES	NO DATA AVAILABLE

### **OTHER SAFETY INFORMATION**

RELATIVE VAPOUR DENSITY                      5.88 - (AIR = 1.0)

---

**SECTION 10.      STABILITY AND REACTIVITY**

---

<b>REACTIVITY</b>	NO DATA AVAILABLE
<b>CHEMICAL STABILITY</b>	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
<b>POSSIBILITY OF HAZARDOUS REACTIONS</b>	NO DATA AVAILABLE
<b>CONDITIONS TO AVOID</b>	HEAT, FLAMES AND SPARKS.
<b>INCOMPATIBLE MATERIALS</b>	STRONG OXIDIZING AGENTS, STRONG BASES
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b>	HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS. - CARBON OXIDES OTHER DECOMPOSITION PRODUCTS - NO DATA AVAILABLE IN THE EVENT OF FIRE: SEE SECTION 5

---

**SECTION 11.      TOXICOLOGICAL INFORMATION**

---

**INFORMATION ON TOXICOLOGICAL EFFECTS**

<b>ACUTE TOXICITY</b>	LD50 ORAL - RAT - 5,000 MG/KG LD50 ORAL - MOUSE - 3,880 MG/KG  INHALATION: NO DATA AVAILABLE  LD50 DERMAL - RABBIT - > 5,000 MG/KG  NO DATA AVAILABLE
<b>SKIN CORROSION/IRRITATION</b>	NO DATA AVAILABLE
<b>SERIOUS EYE DAMAGE/EYE IRRITATION</b>	NO DATA AVAILABLE
<b>RESPIRATORY OR SKIN SENSITISATION</b>	NO DATA AVAILABLE

<b>GERM CELL MUTAGENICITY</b>	NO DATA AVAILABLE
<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.
ACGIH:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY ACGIH.
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
<b>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE</b>	NO DATA AVAILABLE
<b>ASPIRATION HAZARD</b>	NO DATA AVAILABLE
<b>ADDITIONAL INFORMATION</b>	RTECS: NOT AVAILABLE  TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

---

## SECTION 12. ECOLOGICAL INFORMATION

---

<b>TOXICITY</b>	
TOXICITY TO FISH	LC50 - PIMEPHALES PROMELAS (FATHEAD MINNOW) - 2.5 MG/L - 96.0 H
TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES	EC50 - DAPHNIA MAGNA (WATER FLEA) - 0.54 MG/L - 48 H



<b>PERSISTENCE AND DEGRADABILITY</b>	NO DATA AVAILABLE
<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>	AN ENVIRONMENTAL HAZARD CANNOT BE EXCLUDED IN THE EVENT OF UNPROFESSIONAL HANDLING OR DISPOSAL.  VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

---

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

---

#### **WASTE TREATMENT METHODS**

<b>PRODUCT</b>	THIS COMBUSTIBLE MATERIAL MAY BE BURNED IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY.
<b>CONTAMINATED PACKAGING</b>	DISPOSE OF AS UNUSED PRODUCT.

---

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

---

<b>DOT (US)</b>	
PROPER SHIPPING NAME:	COMBUSTIBLE LIQUID, N.O.S. (2-Undecanone)
NA-NUMBER:	1993
CLASS:	NONE
PACKING GROUP:	III
REPORTABLE QUANTITY (RQ):	
POISON INHALATION HAZARD:	NO
<b>IMDG</b>	
PROPER SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Undecanone)

UN NUMBER: 3082  
CLASS: 9  
PACKING GROUP: III  
EMS-NO: F-A, S-F  
MARINE POLLUTANT: YES

**IATA**

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
LIQUID, N.O.S. (2-Undecanone)  
UN NUMBER: 3082  
CLASS: 9  
PACKING GROUP: III

**FURTHER INFORMATION:**

EHS-MARK REQUIRED (IMDG CODE 2.10.3) FOR SINGLE PACKAGINGS AND  
COMBINATION PACKAGINGS CONTAINING INNER PACKAGINGS WITH DANGEROUS  
GOODS > 5L FOR LIQUIDS OR > 5KG FOR SOLIDS.

---

**SECTION 15. REGULATORY INFORMATION**

---

**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

**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-Undecanone	112-12-9	

**NEW JERSEY RIGHT TO KNOW COMPONENTS**

	CAS-NO.	REVISION DATE
2-Undecanone	112-12-9	

**CALIFORNIA PROP. 65 COMPONENTS**

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF  
CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE  
HARM.

---

**SECTION 16. OTHER INFORMATION**

---

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

H227 COMBUSTIBLE LIQUID.  
H410 VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

**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:**

*THE INFORMATION ABOVE IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. IN NO EVENT SHALL **CII** BE LIABLE FOR ANY CLAIMS, LOSSES, OR DAMAGES OF ANY THIRD PARTY OR FOR LOST PROFITS OR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES, HOWSOEVER ARISING, EVEN IF **CII** HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.*

VERSION: 3.1.

REVISION DATE: 01/27/2017