

# *Chem-Impex International Inc.*

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## SAFETY DATA SHEET

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### SECTION 1. CHEMICAL IDENTIFICATION

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CATALOG #:	33738
NAME:	2,3-Pentanedione
SYNONYMS:	Acetylpropionyl
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

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#### CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

**GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)**  
FLAMMABLE LIQUIDS (CATEGORY 2), H225

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)

H225 HIGHLY FLAMMABLE LIQUID AND VAPOUR.

PRECAUTIONARY STATEMENT(S)

P210 KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. NO SMOKING.  
P233 KEEP CONTAINER TIGHTLY CLOSED.  
P240 GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT.  
P241 USE EXPLOSION-PROOF ELECTRICAL/ VENTILATING/ LIGHTING EQUIPMENT.  
P242 USE ONLY NON-SPARKING TOOLS.  
P243 TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE.  
P280 WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION.  
P303 + P361 + P353 IF ON SKIN (OR HAIR): REMOVE/ TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/ SHOWER.  
P370 + P378 IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL-RESISTANT FOAM TO EXTINGUISH.  
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

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

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MF:  $C_5H_8O_2$   
MW: 100.12  
CAS-NO. 600-14-6  
PURITY: 95 - 100% (GC)

**HAZARDOUS COMPONENTS**

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COMPONENT	CLASSIFICATION	CONCENTRATION
2,3-Pentanedione		
	-	-

NO COMPONENTS NEED TO BE DISCLOSED ACCORDING TO THE APPLICABLE REGULATIONS.

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>	FLUSH EYES WITH WATER AS A PRECAUTION.
<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>	SUITABLE EXTINGUISHING MEDIA DRY POWDER DRY SAND
	UNSUITABLE EXTINGUISHING MEDIA DO NOT USE WATER JET.
<b>SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE</b>	CARBON OXIDES
<b>ADVICE FOR FIREFIGHTERS</b>	WEAR SELF CONTAINED BREATHING APPARATUS FOR FIREFIGHTING IF NECESSARY.
<b>FURTHER INFORMATION</b>	USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

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

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<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. EVACUATE PERSONNEL TO SAFE AREAS. 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.
<b>METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP</b>	CONTAIN SPILLAGE, AND THEN COLLECT WITH NON-COMBUSTIBLE ABSORBENT MATERIAL, (E.G. SAND, EARTH, DIATOMACEOUS EARTH, VERMICULITE) AND PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL / NATIONAL REGULATIONS (SEE SECTION 13).
<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>	AVOID INHALATION OF VAPOUR OR MIST. USE EXPLOSION-PROOF EQUIPMENT. KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING. TAKE MEASURES TO PREVENT THE BUILD UP OF ELECTROSTATIC CHARGE. FOR PRECAUTIONS SEE SECTION 2.2.
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**CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES** 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 0 - 8 °C

**SPECIFIC END USE(S)** 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** 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** FACE SHIELD AND SAFETY GLASSES 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.

**BODY PROTECTION** IMPERVIOUS CLOTHING, FLAME RETARDANT ANTISTATIC PROTECTIVE 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.

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

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

APPEARANCE	Yellow to yellow-green liquid
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	-51 to -52 °C
INITIAL BOILING POINT AND BOILING RANGE	108 - 112 °C
FLASH POINT	19 °C
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE
VAPOUR PRESSURE	NO DATA AVAILABLE
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	0.957 g/mL at 25 °C
WATER SOLUBILITY	NO DATA AVAILABLE
PARTITION COEFFICIENT: N- OCTANOL/WATER	NO DATA AVAILABLE
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**

NO DATA AVAILABLE

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**SECTION 10. STABILITY AND REACTIVITY**

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

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**SECTION 11. TOXICOLOGICAL INFORMATION**

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**INFORMATION ON TOXICOLOGICAL EFFECTS**

<b>ACUTE TOXICITY</b>	LD50 ORAL - RAT - 3,000 MG/KG  INHALATION: NO DATA AVAILABLE  LD50 DERMAL - RABBIT - > 2,500 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.

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.

**REPRODUCTIVE TOXICITY** NO DATA AVAILABLE

**SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE** NO DATA AVAILABLE

**SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE** NO DATA AVAILABLE

**ASPIRATION HAZARD** NO DATA AVAILABLE

**ADDITIONAL INFORMATION** RTECS: SA1850000

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED. FOR ADDITIONAL STUDIES RELATED TO THIS PRODUCT, REVIEW OSHA LITERATURE ON DIACETYL AND FLAVORINGS (WWW.OSHA.GOV), THE OSHA NEP FOR MICROWAVE POPCORN PROCESSING PLANTS, NIOSH PUBLICATION 2004-110D, AND OTHER NIOSH LITERATURE REGARDING FLAVORINGS (WWW.CDC.GOV/NIOSH)., ANIMALS EXPOSED TO DIACETYL AND OTHER RELATED DIACETYL SUBSTITUTES EXPERIENCED DAMAGE TO THE NOSE AND UPPER AIRWAYS, INCLUDING SEVERE DAMAGE TO CELLS LINING THE RESPIRATORY TRACT. NIOSH HAS REPORTED THAT EMPLOYEES EXPOSED TO BUTTER FLAVORINGS CONTAINING DIACETYL ARE AT RISK OF DEVELOPING OCCUPATIONAL LUNG DISEASES AND THAT IN ONE INSTANCE, SIMILAR ILLNESSES HAVE BEEN FOUND AMONG EMPLOYEES PRODUCING BUTTER AND VANILLA FLAVORINGS CONTAINING DIACETYL.

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**SECTION 12. ECOLOGICAL INFORMATION**

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<b>TOXICITY</b>	NO DATA AVAILABLE
<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>	NO DATA AVAILABLE

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

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#### **WASTE TREATMENT METHODS**

<b>PRODUCT</b>	CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE.
<b>CONTAMINATED PACKAGING</b>	DISPOSE OF AS UNUSED PRODUCT.

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

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<b>DOT (US)</b>	
PROPER SHIPPING NAME:	KETONES, LIQUID, N.O.S ( 2,3-Pentanedione )
UN NUMBER:	1224
CLASS:	3
PACKING GROUP:	II
REPORTABLE QUANTITY (RQ):	
POISON INHALATION HAZARD:	NO
<b>IMDG</b>	
PROPER SHIPPING NAME:	KETONES, LIQUID, N.O.S ( 2,3-Pentanedione )

UN NUMBER: 1224  
CLASS: 3  
PACKING GROUP: II  
EMS-NO: F-E, S-D

**IATA**

PROPER SHIPPING NAME: KETONES, LIQUID, N.O.S ( 2,3-Pentanedione )  
UN NUMBER: 1224  
CLASS: 3  
PACKING GROUP: II

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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

**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
2,3-Pentanedione	600-14-6	

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**SECTION 16. OTHER INFORMATION**

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

H225 HIGHLY FLAMMABLE LIQUID AND VAPOUR.

**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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