# Chem-Impex International Inc.

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### SAFETY DATA SHEET

#### SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 02002

NAME: Acetoin

SYNONYMS: 3-Hydroxy-2-butanone

Acetylmethylcarbinol

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 3), H226

SKIN IRRITATION (CATEGORY 2), H315 EYE IRRITATION (CATEGORY 2A), H319

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)**

H226 FLAMMABLE LIQUID AND VAPOUR.

H315 CAUSES SKIN IRRITATION.

H319 CAUSES SERIOUS EYE IRRITATION.

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.	
P264	WASH SKIN THOROUGHLY AFTER HANDLING.	
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.	
P305 + P351 + P338	IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL	
	MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND	
	EASY TO DO. CONTINUE RINSING.	
P332 + P313	IF SKIN IRRITATION OCCURS: GET MEDICAL ADVICE/	
	ATTENTION.	
P337 + P313	IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/	
	ATTENTION.	

P370 + P378IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR

ALCOHOL-RESISTANT FOAM FOR EXTINCTION.

TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE

P403 + P235STORE IN A WELL-VENTILATED PLACE. KEEP COOL. P501

DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED

WASTE DISPOSAL PLANT.

REUSE.

**HAZARDS NOT NONE** 

**OTHERWISE** 

P362

CLASSIFIED (HNOC) OR NOT COVERED **BY GHS** 

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

MF:  $C_4H_8O_2$ 

MW: 88.11

CAS-NO. 513-86-0

PURITY:  $\geq 96\%$  (Assay)

#### **HAZARDOUS COMPONENTS**

COMPONENT	CLASSIFICATION	CONCENTRATION
Acetoin		
	FLAM. LIQ. 3; EYE DAM. 1;	<= 100 %
	H226, H318	

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**

GENERAL ADVICE CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA

SHEET TO THE DOCTOR IN ATTENDANCE.MOVE OUT

OF DANGEROUS AREA.

**IF INHALED** IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF

NOT BREATHING, GIVE ARTIFICIAL RESPIRATION.

CONSULT A PHYSICIAN.

IN CASE OF SKIN WASH OFF WITH SOAP AND PLENTY OF WATER.

**CONTACT** CONSULT A PHYSICIAN.

IN CASE OF EYE RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT

**CONTACT** LEAST 15 MINUTES AND CONSULT A PHYSICIAN.

**IF SWALLOWED** DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING

BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.

MOST IMPORTANT

SYMPTOMS AND

EFFECTS, BOTH ACUTE

AND DELAYED

THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE

SECTION 2.2) AND/OR IN SECTION 11.

INDICATION OF ANY NO IMMEDIATE MEDICAL

NO DATA AVAILABLE

#### SECTION 5. FIRE AND EXPLOSION DATA

**EXTINGUISHING MEDIA** 

**SUITABLE** SUITABLE EXTINGUISHING MEDIA

**EXTINGUISHING MEDIA** DRY POWDER DRY SAND

UNSUITABLE EXTINGUISHING MEDIA

DO NOT USE WATER JET.

**CARBON OXIDES** 

**SPECIAL HAZARDS** 

ARISING FROM THE

SUBSTANCE OR MIXTURE

ADVICE FOR WEAR SELF-CONTAINED BREATHING APPARATUS FOR

**FIREFIGHTERS** FIREFIGHTING IF NECESSARY.

FURTHER INFORMATION USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL USE PERSONAL PROTECTIVE EQUIPMENT. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE PRECAUTIONS,

ADEQUATE VENTILATION. REMOVE ALL SOURCES OF **PROTECTIVE** IGNITION. BEWARE OF VAPOURS ACCUMULATING TO **EQUIPMENT AND EMERGENCY** FORM EXPLOSIVE CONCENTRATIONS. VAPOURS CAN

**PROCEDURES** ACCUMULATE IN LOW AREAS.

FOR PERSONAL PROTECTION SEE SECTION 8.

PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE **ENVIRONMENTAL PRECAUTIONS** TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.

**METHODS AND** CONTAIN SPILLAGE, AND THEN COLLECT WITH NON-COMBUSTIBLE ABSORBENT MATERIAL, (E.G. SAND, **MATERIALS FOR** 

EARTH, DIATOMACEOUS EARTH, VERMICULITE) AND **CONTAINMENT AND** PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO **CLEANING UP** LOCAL / NATIONAL REGULATIONS (SEE SECTION 13).

REFERENCE TO OTHER **SECTIONS** 

FOR DISPOSAL SEE SECTION 13.

#### SECTION 7. HANDLING AND STORAGE

HANDLING

PRECAUTIONS FOR SAFE 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.

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 2 - 8 °C

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

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.

FULL CONTACT
MATERIAL: NITRILE RUBBER
MINIMUM LAYER THICKNESS: 0.11 MM
BREAK THROUGH TIME: 480 MIN
MATERIAL TESTED: DERMATRIL (KCL 740, SIZE M)

SPLASH CONTACT MATERIAL: NITRILE RUBBER MINIMUM LAYER THICKNESS: 0.11 MM BREAK THROUGH TIME: 480 MIN MATERIAL TESTED:DERMATRIL (KCL 740, 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, 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.

## RESPIRATORY PROTECTION

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULL-FACE 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).

CONTROL OF ENVIRONMENTAL EXPOSURE PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE Colorless to pale yellow liquid to solid

ODOUR NO DATA AVAILABLE
ODOUR THRESHOLD NO DATA AVAILABLE
PH NO DATA AVAILABLE

MELTING 15 °C (monomer), 90 °C (dimer)

POINT/FREEZING POINT

INITIAL BOILING POINT 147 - 149 °C (Lit.)

AND BOILING RANGE

FLASH POINT 51 °C

EVAPORATION RATE NO DATA AVAILABLE FLAMMABILITY (SOLID, NO DATA AVAILABLE

GAS)

UPPER/LOWER UPPER EXPLOSION LIMIT: 12.2 %(V) FLAMMABILITY OR LOWER EXPLOSION LIMIT: 1 %(V)

EXPLOSIVE LIMITS

VAPOUR PRESSURE 50 HPA AT 50 C

5 HPA AT 20 C

VAPOUR DENSITY NO DATA AVAILABLE RELATIVE DENSITY 1.013 g/mL at 25 °C

WATER SOLUBILITY CA.0.1 G/L
PARTITION COEFFICIENT: LOG POW: -0.913

N- OCTANOL/WATER

AUTO-IGNITION NO DATA AVAILABLE

TEMPERATURE

DECOMPOSITION NO DATA AVAILABLE

**TEMPERATURE** 

VISCOSITY NO DATA AVAILABLE EXPLOSIVE PROPERTIES NO DATA AVAILABLE OXIDIZING PROPERTIES NO DATA AVAILABLE

OTHER SAFETY INFORMATION

NO DATA AVAILABLE

#### SECTION 10. STABILITY AND REACTIVITY

**REACTIVITY** NO DATA AVAILABLE

CHEMICAL STABILITY STABLE UNDER RECOMMENDED STORAGE

CONDITIONS.

POSSIBILITY OF HAZARDOUS REACTIONS NO DATA AVAILABLE

**CONDITIONS TO AVOID** HEAT, FLAMES AND SPARKS.

**INCOMPATIBLE** STRONG OXIDIZING AGENTS, STRONG BASES

**MATERIALS** 

**HAZARDOUS** 

HAZARDOUS DECOMPOSITION PRODUCTS FORMED

UNDER FIRE CONDITIONS. - CARBON OXIDES **DECOMPOSITION PRODUCTS** 

OTHER DECOMPOSITION PRODUCTS - NO DATA

**AVAILABLE** 

IN THE EVENT OF FIRE: SEE SECTION 5

#### TOXICOLOGICAL INFORMATION **SECTION 11.**

#### INFORMATION ON TOXICOLOGICAL EFFECTS

**ACUTE TOXICITY** LD50 ORAL - RAT - FEMALE - > 2,000 MG/KG

(OECD TEST GUIDELINE 423)

INHALATION: NO DATA AVAILABLE

LD50 DERMAL - RABBIT - > 5,000 MG/KG

NO DATA AVAILABLE

SKIN - RECONSTRUCTED HUMAN EPIDERMIS (RHE) SKIN

CORROSION/IRRITATION RESULT: NO SKIN IRRITATION (OECD TEST GUIDELINE 439)

SERIOUS EYE NO DATA AVAILABLE

DAMAGE/EYE IRRITATION

RESPIRATORY OR SKIN DIRECT PEPTIDE REACTIVITY ASSAY (DPRA)

**SENSITISATION** RESULT: NOT A SKIN SENSITIZER. (OECD TEST GUIDELINE 442C)

GERM CELL REVERSE MUTATION ASSAY MUTAGENICITY SALMONELLA TYPHIMURIUM

**RESULT: NEGATIVE** 

**CARCINOGENICITY** 

NO COMPONENT OF THIS PRODUCT PRESENT AT IARC:

> 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.

NO COMPONENT OF THIS PRODUCT PRESENT AT OSHA:

> 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: EL8790000

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE

NOT BEEN THOROUGHLY INVESTIGATED.

#### **SECTION 12. ECOLOGICAL INFORMATION**

TOXICITY

TOXICITY TO FISH LC50 - LEUCISCUS IDUS (GOLDEN ORFE) - > 2,200

MG/L - 96 H

LC0 - LEUCISCUS IDUS (GOLDEN ORFE) - 2,200 MG/L -

48 H

PERSISTENCE AND DEGRADABILITY

BIODEGRADABILITY AEROBIC - EXPOSURE TIME 28 D

RESULT: CA.76 % - READILY BIODEGRADABLE.

(OECD TEST GUIDELINE 301F)

BIOACCUMULATIVE

**POTENTIAL** 

NO DATA AVAILABLE

**MOBILITY IN SOIL** NO DATA AVAILABLE

RESULTS OF PBT AND **VPVB ASSESSMENT** 

PBT/VPVB ASSESSMENT NOT AVAILABLE AS

CHEMICAL SAFETY ASSESSMENT NOT

REQUIRED/NOT CONDUCTED

OTHER ADVERSE EFFECTS NO DATA AVAILABLE

#### SECTION 13. DISPOSAL CONSIDERATIONS

#### WASTE TREATMENT METHODS

PRODUCT 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. CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS

MATERIAL.

CONTAMINATED PACKAGING

DISPOSE OF AS UNUSED PRODUCT.

#### SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME: ACETYL METHYL CARBINOL

UN NUMBER: 2621 CLASS: 3 PACKING GROUP: III

REPORTABLE QUANTITY

(RQ):

POISON INHALATION NO

HAZARD:

**IMDG** 

PROPER SHIPPING NAME: ACETYL METHYL CARBINOL

UN NUMBER: 2621 CLASS: 3 PACKING GROUP: III EMS-NO: F-E, S-D

**IATA** 

PROPER SHIPPING NAME: ACETYL METHYL CARBINOL

UN NUMBER: 2621 CLASS: 3 PACKING GROUP: III

#### **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 (DEMINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.

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

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

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

Acetoin 513-86-0 3/1/2007

NEW JERSEY RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

Acetoin 513-86-0 3/1/2007

#### SECTION 16. OTHER INFORMATION

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

H226 FLAMMABLE LIQUID AND VAPOUR.

H315 CAUSES SKIN IRRITATION.

H319 CAUSES SERIOUS EYE IRRITATION.

MSDS LEGEND

MW: MOLECULAR WEIGHT MF: MOLECULAR FORMULA

VOC: VOLATILE ORGANIC COMPOUNDS

ACGIH: AMERICAN CONFERENCE OF GOVERNMENENTAL INDUSTRIAL

**HYGINISTS** 

CAS: CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER
OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

PEL: PERMISSIBLE EXPOSURE LIMIT (OSHA) TLV: THRESHOLD LIMIT VALUE (ACGIH)

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