

HEALTH	1
FLAMMABILITY	2
REACTIVITY	0

Section 1: IDENTIFICATION


Product Name: **Acetoin (Acetyl Methyl Carbinol), Natural (Liquid)**
 Product Number: **0200800**
 Recommended Use: Flavorings
 Manufacturer: Aurochemicals, 7 Nicoll Street, Washingtonville, NY 10992
 Emergency Telephone No.: 1-800-535-5053 (International 1-352-323-3500 collect)

Section 2: HAZARD(s) IDENTIFICATION

OSHA Hazards: Irritant
 GHS Classification: Flammable Liquid (Category 3)
 Skin irritation (Category 2)
 Eye irritation (Category 2A)

Signal Word: **Warning**

Hazard Statement: H226 Flammable liquid and vapor
 H315 Causes skin irritation
 H319 Causes serious eye irritation

Pictogram or written description: 

Precautionary Statement: P305 If in Eyes: Rinse cautiously with water for several minutes
 P351 Remove contact lenses, if present and easy to do.
 P338 Continue rinsing

HMIS Classification: Health Hazard 2
 Flammability 0
 Physical Hazards 0

Potential Health Effects: Inhalation May be harmful if inhaled. Causes respiratory tract irritation
 Skin May be harmful if absorbed through skin. Causes skin irritation
 Eyes Causes eye irritation
 Ingestion May be harmful if swallowed

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substances:
 Chemical Name: Acetyl methyl carbinol
 Common Name: Acetoin
 Synonyms: 3 Hydroxy-2-butanone
 CAS #: 513-86-0
 EC#: 208-174-1
 Molecular Weight: 88.11 g/mol
 Molecular Formula: C₄H₈O₂

Section 4: FIRST AID MEASURES

General Advise:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Contact with eyes:	Rinse thoroughly with plenty of water for at least 15 minutes and seek medical advice.
Contact with skin:	Remove contaminated clothing. Rinse skin with cool water then wash with mild soap and warm water. Consult a physician
Inhalation:	Provide fresh air, Consult a physician
Ingestion:	DO NOT induce vomiting. Never give anything by mouth to unconscious person. Rinse mouth with water, seek medical advice, show this container or label to attending physician
Clothing contamination:	Remove contaminated clothing and wash clothing before re-use

Section 5: FIREFIGHTING MEASURES

Conditions of Flammability	Flammable Liquid. Keep away from heat /sparks/open flame/ hot surface. No smoking.
Suitable Extinguishing Media	Water Spray, Carbon Dioxide, alcohol resistant foam, dry chemical
Special Firefighting Procedures:	Do not stay in danger zone without self contained breathing apparatus Prevent fire-fighting water from entering surface or ground water Use water spray to cool unopened containers
Other Information	Hazardous decomposition products formed under fire conditions – Carbon oxides.

Section 6: ACCIDENTAL RELEASE MEASURES

Person-related precautionary measures	Evacuate personnel to safe areas. Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Avoid breathing vapors, mist, or gas. Ensure supply of fresh air in enclosed rooms, Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Environmental-protected measures Procedures for cleaning / absorption	Do not allow to enter drains or sewage system. Contain spillage, and then pick up with electrically protected vacuum cleaner or by wet brushing and place in container suitable for disposal. Keep in suitable, closed containers for disposal.
Ventilate area	After sweep up, wash area and ventilate area well

Section 7: HANDLING AND STORAGE

Handling:	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Keep away from sources of ignition. No smoking. Take measures to prevent the buildup of electrostatic charge.
Storage:	Keep container tightly closed, in dry and well ventilated place. Recommended Recommended storage temperature: 2-8°C

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:	Contains no substances with occupational exposure limit values
Personal Protective Equipment:	These recommendations are advisory only and must be evaluated by an

industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. They should not be construed as offering an approval for any specific use scenario.

Body Protection:	Protective clothing should be selected specifically for the work place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier
Respiratory Protection:	For nuisance exposures use US Type P95 particle respirator For higher level protection use US Type OV/AG/P99 respirator cartridges Use respirators and components tested and approved under appropriate government standards such as NIOSH.
Eye Protection:	Wear appropriate eye and face protection – Face Shield
Hand Protection:	Wear chemically resistant Nitrile rubber gloves. Dispose of contaminated gloves after use in accordance with applicable laws.
Industrial Hygiene:	Handle in accordance with good industrial hygiene and safety practice. Wash contaminated clothing before reuse. Wash hands after working with product

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless to light yellow liquid
Odor:	Dairy, butter, milk, yogurt
Boiling Point:	148°C
Flashpoint:	45°C
Melting Point:	90-93°C
Ignition temperature:	370°C
Oxidizing Properties:	Not oxidizing; flammable
Lower Explosion Limit	1% Vol
Upper Explosion Limit	12.2% Vol
Vapor Pressure:	50 hPa (38 mmHg) 50°C (122°F) 5 hPa (4mmHg) at 20°C (68°F)
Specific Gravity @ 25°C:	1.005-1.019
Solubility in Water:	Miscible in alcohol, propylene glycol, partly water
Soluble in Organic Solvents	Insoluble in vegetable oils

Section 10: STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions
Conditions to be avoided	Heat, flames, and sparks
Substances to be avoided	Strong oxidizing agents, Strong bases
Hazardous decomposition products:	Toxins formed under fire conditions – carbon dioxide

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity	
LD50 Dermal – Rabbit	>5,000 mg/kg
Skin corrosion / irritation	Rabbit – Skin irritation 24 h – Draize Test
Serious eye damage/ eye irritation	No information available
Respiratory or skin sensitization	No information available
Germ cell mutagenicity	No information available

Carcinogenicity

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 probable, possible or confirmed human carcinogen by ACGIH

NTP 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 NTP

OSHA 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 OSHA

Reproductive toxicity

Rat – Oral
Paternal effects: Testes, epididymis, sperm duct

Specific Target Organ toxicity-Single exposure (GHS) No information available

Specific Target Organ toxicity-repeated exposure (GHS) No information available

Potential Health Effects

Inhalation – May be harmful if inhaled. Causes respiratory tract irritation
Ingestion – Harmful if swallowed
Skin – Harmful if absorbed through skin. Causes skin irritation
Eyes – Causes eye irritation
EL8790000

RTECS

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 *Leuciscus idus* Golden orfe) LC50 – <2,200 mg/l – 96 h
LC0 – 2,200 mg/l – 48 h

Section 13: DISPOSAL CONSIDERATIONS

Product: According to local regulations
Packaging: According to local regulations

Section 14: TRANSPORT INFORMATION

DOT (US) UN-no. / Name UN2621 Class 3, PGIII (Acetyl methyl carbinol)
Reportable Quantity, Marine Pollutant/ Poison No
Inhalation Hazard No

IMDG-Classification UN2621 Class 3, PGIII (Acetyl methyl carbinol) EMS-No. F-E, S-D

IATA-Not dangerous goods UN2621 Class 3, PGIII (Acetyl methyl carbinol)

Section 15: REGULATORY INFORMATION

OSHA Hazards Irritant
SARA 302 Components No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

Safety Data Sheet

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	Acute Health Hazard
Massachusetts Right to Know Components	No components are subject to the Massachusetts Right to Know Act
Pennsylvania Right to Know Components	Acetoin CAS# 513-86-0 Rev. Date: 3/1/07
New Jersey Right to Know Components	Acetoin CAS# 513-86-0 Rev. Date: 3/1/07
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
Labeling according to EC Directives	
Symbol	Xn Harmful
R-phrases	22 Harmful if swallowed
S-phrases	N/a
EC No.	204-618-3

Section 16: OTHER INFORMATION

Further information:

December 23, 2009, the USA Center of Disease Control –NIOSH in a letter updating USA Department of Labor-OSHA, stated it is planning to conduct research of three diacetyl substitutes; (1) starter mix, a distillate that contains diacetyl; (2) acetoin, prepared from diacetyl and used for its butter-like odor; and (3) 2,3, pentanedione, a constituent of butter flavoring agents which NIOSH described as “structurally very similar to diacetyl”.

Exposure to diacetyl may cause nausea, headache and vomiting. 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.

Aurochemicals provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Aurochemicals makes no representations or warranties, either expressed or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Aurochemicals will not be responsible, nor held liable, for damages resulting from use of or reliance upon this information.

Issued by:	Contact Person:
Aurochemicals	Deo N. Persaud
7 Nicoll Street	Revised Date: 8/5/2022
Washingtonville, NY 10992 USA	