


HEALTH	1
FLAMMABILITY	3
REACTIVITY	0

Section 1: IDENTIFICATION

Product Name:	Acetyl Propionyl (2,3 Pentanedione), Natural
Product Number:	0284100
CAS No.	600-14-6
EC No.	209-984-8
Recommended Use:	Flavorings
Manufacturer:	Aurochemicals 7 Nicoll Street, Washingtonville, NY 10992 -USA
Emergency Telephone No.:	1-800-535-5053 (International 1-352-323-3500 collect)

Section 2: HAZARD(s) IDENTIFICATION

OSHA Hazards	Flammable liquid, Irritant
GHS Classification	Flammable Liquids (Category 2) H225 Skin irritation (Category 2), H315 Eye irritation (Category 2A), H319 Specific target organ toxicity-single exposure (Category 3) Respiratory System, H335
Pictogram or written description	
Signal Word	Danger
Hazard Statements:	H225 Highly flammable liquid and vapor H313 Causes skin irritation H319 Causes serious eye irritation H335 May cause respiratory irritation
Precautionary Statements:	P210 Keep away from heat/sparks/open flames/hot surface-No smoking P233 Keep container tightly closed P240 Ground/bon 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 P261 Avoid breathing dust/fume/gas/mist/vapors/spray P264 Wash skin thoroughly after handling P271 Use only outdoors or in a well-ventilated area P280 Wear protective gloves/clothing/eye protection/face protection

P203+	IF ON SKIN (or hair) Remove/Take off immediately all contaminated clothing.
P361+	Rinse skin with water/shower
P304+	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P340	
P305 +	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.
P351+	
P338	Continue Rinsing.
P312	Call a POISON CENTER or physician if you feel unwell.
P321	Specific treatment(see supplement first aid instructions on this label)
P332+	If skin irritation occurs:
P313	Get medical advice/attention.
P337+	If eye irritation occurs:
P313	Get medical advice / attention.
P362	Take off contaminated clothing and wash before reuse.
P370+	In case of fire: Use dry sand, dry chemical or alcohol resistant foam for extinction.
P378	
P403+	Store in a well ventilated place.
P233+	Keep container tightly closed.
P235	Keep cool.
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

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substances:

Chemical Name	2,3-Pentanedione, Natural
Common Name:	Acetyl Propionyl
Synonyms:	Acetylpropionyl
CAS #	600-14-6
EC#	209-984-8
Molecular Formula	C ₅ H ₈ O ₂
Molecular Weight	100.12 g/mol

Hazardous component	Classification	Concentration
Pentane-2,3-dione	Flammable Liquid (2) H225 Skin Irritant (2) H315 Eye Irritant (2A) H319 STOT SE (3) H335	-

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 an unconscious person. Rinse mouth with water, seek medical advice, show this container or label to attending physician

Clothing contamination:	Remove contaminated clothing and wash before reuse.
Most important symptoms and effects, both acute and delayed	See section 2 and Section 11
Indication of any immediate medical attention and special treatment needed	No data available

Section 5: FIREFIGHTING MEASURES

Conditions of Flammability	Flammable Liquid
Suitable Extinguishing Media	For Small (incipient) fires, use media such as "alcohol" foam, dry chemical or carbon dioxide. For large fires, apply water from as far away as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.
Special Firefighting Procedures:	Do not stay in danger zone without self contained breathing apparatus Prevent fire-fighting water from entering surface or ground water Cool container with water spray from a safe distance.
Special Risks	Highly Flammable. Vapors heavier than air. Forms explosive mixtures with air at ambient temperatures. Development of hazardous combustion gases or vapors possible in the event of fire. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
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 breathing vapors, mist or gas. Ensure adequate 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. Take up with liquid absorbent material. Place in appropriate container and keep closed until disposal
Ventilate area	After clean up, wash spill area and ventilate the area well

Section 7: HANDLING AND STORAGE

Handling:	Avoid contact with skin and eyes. Avoid inhalation of vapors or mist. Use explosion-proof equipment. Keep away from sources of ignition – No smoking. Take precautionary measures to prevent the buildup of electrostatic discharge.
Storage:	Recommended storage temperature: 2-8°C Keep container tightly closed, in dry and well ventilated place. Keep away from source of ignition – no smoking Store under inert gas. Air and moisture sensitive

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:	Contains no substances with occupational exposure limit values
Exposure Controls	Handle in accordance with good industrial hygiene and safety practices. Wash hands before and after breaks and at the end of the workday.

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.

Personal Protective Equipment:	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:	Where risk assessment shows air-purifying respirators are appropriate, use a full face respirator with multi-purpose combination respirator cartridges as a back up to engineering controls. If the respirator is the sole means of protection, use a full faced air supplied respirator. Use only respirators that have been tested and approved by government standards. NIOSH (US) or CEN (EU).
Eye Protection:	Wear appropriate eye and face protection – Face Shield
Hand Protection:	Wear chemically resistant gloves. Use proper glove removal techniques to prevent skin touching the outer surface of the gloves. Wash and dry hands after handling this product.
Industrial Hygiene:	Handle in accordance with good industrial hygiene and safety practice. Impervious clothing, flame retardant antistatic protective clothing. Change contaminated clothing and wash before reuse. Wash hands after working with product. Application of barrier cream is recommended.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Color:	Yellow to yellow green liquid
Odor:	Strong smell, caramel odor in very diluted solution
Boiling Point:	108°C
Flashpoint:	19°C
Melting Point	52°C
Ignition temperature	No data available
Oxidizing Properties:	Not oxidizing; Flammable
Lower Explosion Limit	No data available
Upper Explosion Limit	No data available
Vapor Pressure:	No data available
Specific Gravity @ 25°C:	0.956-0.981
Solubility	Miscible in alcohol, propylene glycol, fixed oils; insoluble in water, blycerin, 1:3 in 50% alcohol

Section 10: STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions
Possibility of hazardous reactions	Vapors may form explosive mixture with air
Conditions to be avoided	Heating, flames and sparks. Extremes of temperature and direct sunlight.
Substances to be avoided	oxidizing agents, strong bases, reducing agents
Hazardous decomposition products:	Fumes formed under fire conditions Carbon Oxides

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity LD50, Oral Rat	3,000 mg/kg
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Safety Data Sheet

LC50 Inhalation Rat	No information available
LD50 Dermal Rabbit	>2,500 mg/kg
Further toxicological information	No other data available
Skin Corrosion / Irritation	Rabbit-Skin irritation – 24 h Remarks: Moderate skin irritation
Serious eye damage / eye irritation	No data available
Respiratory or skin sensitization	No data 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 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 identified as a carcinogen or potential carcinogen by OSHA.
Specific target organ toxicity-Single exposure GHS	Inhalation – May cause respiratory irritation
Specific target organ toxicity-Repeated exposure GHS	No data available
Aspiration hazard	No data available
Potential Health Effects	Inhalation: May be harmful if inhaled. Causes respiratory tract irritation Ingestion: May be harmful if swallowed. Skin: May be harmful if absorbed through skin. Causes skin irritation Eyes: Causes eye irritation
Signs and Symptoms of Exposure	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.

RTECS: SA1850000

Section 12: ECOLOGICAL INFORMATION

Toxicity No data available

Section 13: DISPOSAL CONSIDERATIONS

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

Section 14: TRANSPORT INFORMATION

DOT (US) UN Number: 1224 Class: 3, Packing Group II
Proper shipping name: Ketone, Liquid, n.o.s. (pentane-2-3-dione)
Marine Pollutant No
Poison Inhalation Hazard No

Safety Data Sheet

IMDG-Classification
Proper shipping name
Marine Pollutant

UN Number: 1224 Class 3, Packing Group II
KETONE, LIQUID, N.O.S. (pentane-2-3-dione)
No

EMS-No: F-E, S-D

IATA-Classification
Proper shipping name

UN Number: 1224 Class 3, Packing Group II
Ketone, Liquid, n.o.s. (pentane-2-3-dione)

Section 15: REGULATORY INFORMATION

REACH No. A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

OSHA Hazards Flammable liquid, Irritant

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

Pennsylvania Right to Know Components pentane-2,3-dione CAS# 600-14-6 Rev. Date:

New Jersey Right to Know Components pentane-2,3-dione CAS# 600-14-6 Rev. Date:

California Prop. 65 Components This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16: OTHER INFORMATION

Additional Information:

December, 23, 2009, the US 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.

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	