

HEALTH	1
FLAMMABILITY	4
REACTIVITY	0

Section 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product Name	Isovaleraldehyde, Natural
Product Number	0269200
CAS-No.	590-86-3

1.2 Product Recommended Use

Flavorings

1.3 Preparation Information

Company	Aurochemicals 7 Nicoll Street Washingtonville, NY 10992 – USA
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Telephone	845-496-6065
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Fax	845-496-6248
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1.4 Emergency Telephone Number

1-800-535-5053
International - 1-352-323-3500 collect

Section 2: HAZARD(s) IDENTIFICATION

2.1 Classification of substance or mixture

GHS Classification in accordance with 29
CFR 1910 (OSHA HCS)

Flammable Liquids (Category 2) H225
Eye irritation (Category 2A), H319
Acute aquatic toxicity (Category 2), H401
Chronic aquatic toxicity (Category 2), H411

2.2 GHS Label Elements, Including precautionary statements

Pictogram



Signal Statement
Hazard Statement(s)

DANGER

H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation
H411	Toxic to aquatic life with long lasting effects

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
P364	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.
P337+P313	If eye irritation occurs: Get medical advice/attention
P370+P378	In case of fire: use dry sand, dry chemical or alcohol resistant foam for extinction.
P403+P25	Store in a well ventilated place. Keep cool
P501	Dispose of contents/ container to an approved waste disposal plant

2.3 HNOC (Hazards not otherwise classified or not covered by GHS) None

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Chemical characterization	Natural Product
Synonyms	3-Methylbutylaldehyde
Formula	C ₅ H ₁₀ O
Molecular Weight	86.13 g/mol
CAS-No	590-86-3
EC-No.	209-691-5

Hazardous Components

Component	Classification	Concentration
Isobutyl Isovalerate	Flammable Liquids (2) H225 Eye irritant (2A), H319 Acute Aquatic Toxicity (2) 401 Chronic Aquatic Toxicity (2)411	-

Section 4: FIRST AID MEASURES

4.1 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.
Inhalation	Provide fresh air; keep at rest and at a comfortable position to breathe. Consult a physician
Contact with skin:	Remove contaminated clothing. Rinse skin with cool water then wash with mild soap and warm water. Consult a physician
Contact with eyes:	Rinse thoroughly with plenty of water for at least 15 as a precaution. Consult a physician.
Ingestion	DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Clothing contamination:	Remove contaminated clothing and wash before reuse.

4.2 Most important symptoms and effects both acute and delayed See section 2.2 and or section 11

4.3 Indication of any immediate medical attention and special treatment needed No data available

Section 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media

Suitable Extinguishing Media Use water spray, alcohol resistant foam, dry chemical or carbon dioxide

5.2 Special hazards arising from the substance or mixture

Carbon oxides

- 5.3 **Advice for fire fighters** Wear self contained breathing apparatus for firefighting if necessary. Emits toxic fumes under fire conditions
- 5.4 **Further information** Use water spray to cool unopened containers.

Section 6: ACCIDENTAL RELEASE MEASURES

- 6.1 **Personal precautions, protective equipment and emergency procedures** Use personal protective equipment. Avoid breathing vapors. Mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. **Vapors can accumulate in low areas.** Evacuate personnel to safe areas.
- 6.2 **Environment precautions** Prevent further leakage or spillage if safe to do so. Do not allow to enter drains or sewage system.
- 6.3 **Methods and materials for containment and clean up** Soak up with absorbent material. Sweep up with broom and shovel. Place in a suitable, closed container for disposal.
- 6.4 **Specific end use(s)** Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

Section 7: HANDLING AND STORAGE

- 7.1 **Precautions for safe handling** Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition-No Smoking. Use explosion proof equipment. Take measures to prevent the buildup of electrostatic charge.
- 7.2 **Conditions for Safe storage** 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. Handle and Store under inert gas
Air and light sensitive
- 7.3 **Specific End use(s)** Flavorings

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 **Control parameters**
Components with workplace control parameters: Contains no substances with workplace control parameters.
- 8.2 **Exposure Controls**
Appropriate Engineering Controls Handle in accordance with good industrial hygiene and safety practices.
Mechanical exhaust required, Safety Shower and Eye Bath
- 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.**
- Eye/face protection Wear appropriate tightly fitting safety goggles. NIOSH tested and approved.
- Skin protection Wear chemically resistant, Butyl rubber gloves. Use proper glove removal techniques (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use. Wash and dry hands.
- Body protection Impervious clothing protecting against chemicals, made of flame retardant antistatic material 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 (US) or type ABEK (EN 14387) respirator cartridges as a back up 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 CN (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

9.1 Information on basic physical and chemical properties

a	Appearance	Colorless to pale yellow liquid
b	Odor	Powerful, penetrating, slightly fruity at low levels
c	Odor Threshold	No data available
d	pH	No data available
e	Melting Point /Freezing Point	Melting Point: -51°C
f	Boiling Point	93°C
g	Flash Point	-1.7°C closed cup
h	Evaporation Rate	No data available
i	Flammability (Solid, Gas)	No data available
j	Upper/lower Flammability Limit	UEL: 6.8 Vol% LEL: 1.7 Vol%
k	Vapor pressure	40 hPa at 20°C
l	Vapor density	2.97 (Air = 1.0)
m	Relative density at 25°C	0.795-0.802
n	Solubility	Soluble in most organic solvents
o	Partition coefficient: n-octanol/water	No data available
p	Auto-ignition Temp.	No data available
q	Decomposition Temp.	No data available
r	Viscosity	No data available
s	Explosive properties	No data available
t	Oxidizing properties	No data available

9.2 Other Safety Information No data available

Section 10: STABILITY AND REACTIVITY

10.1 Reactivity	No data available
10.2 Chemical Stability	Stable under recommended storage conditions
10.3 Possibility of Hazardous reactions	No data available
10.4 Conditions to avoid	Heat, Flames and sparks. Extremes of temperature and direct sunlight
10.5 Incompatible materials	Oxidizing agents, Strong bases, Strong reducing agents
10.6 Hazardous decomposition products	No data available
10.7 Further Information	No data available

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

LD50-Oral-Rat

5,600 mg/kg

Remarks: Behavioral: Somnolence (general depressed activity)

LC50-Inhalation-Rat

42,700 mg/m³ 4h

Remarks: Behavioral: Altered sleep time (including change in righting reflex).

Gastrointestinal: Changes in structure or function of salivary glands.

LD50-Dermal-Rabbit	2,534 mg/kg
	Remarks: Liver: other changes, prolonged skin contact may cause skin irritation and/or dermatitis.
Skin corrosion/irritation	Rabbit – Mild skin irritation – 24 h
Serious eye damage/eye irritation	Rabbit- Moderate eye irritation – 24 h
Respiratory or skin sensitization	No data available
Germ Cell mutagenicity	No data available
Carcinogenicity	
	IARC No component of this product, present 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.
Reproductive toxicity	No data available
Teratogenicity	No data available
Specific target organ toxicity-single exposure (GHS)	No data available
Specific target organ toxicity-repeated exposures (GHS)	No data available
Aspiration Hazards	No data available
Signs and Symptoms of Exposure	Headache, Nausea To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated
Synergistic effect	No data available
RETECS:	ES3450000

Section 12: ECOLOGICAL INFORMATION

12.1	Toxicity	To Fish: LC50 – Pimephales promelas (fathead minnow) – 3.25 mg/l 96 h
12.2	Persistence and degradability	No data available
12.3	Bioaccumulative potential	Does not bioaccumulate
12.4	Mobility in soil	No data available
12.5	Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required / not conducted
12.6	Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life

Section 13: DISPOSAL CONSIDERATIONS

13.1	Disposal methods	
	Product:	According to local regulations
	Packaging	According to local regulations

Section 14: TRANSPORT INFORMATION

DOT (US)	UN-Number: 1989 Class: 3 Packing Group: II
Proper shipping name:	Aldehydes n.o.s.
Marine Pollutant:	No
Poison Inhalation Hazard:	No
IMDG	UN-Number: 1989 Class: 3 Packing Group: II EMS-No. F-E, S-D
Proper shipping name:	ALDEHYDES N.O.S. (Isovaleraldehyde)
Marine Pollutant:	No
IATA	UN-Number: 1989 Class: 3 Packing Group: II
Proper shipping name:	Aldehydes n.o.s. (Isovaleraldehyde)

Section 15: REGULATORY INFORMATION

Reach No.	A registration number is not available for this substance as its uses are exempted from registration, the annual tonnage not require a registration or the registration is envisaged for a later registration deadline.		
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	Acute health hazard		
Massachusetts Right to Know components	Isovaleraldehyde	CAS# 590-86-3	Rev. Date: 4/24/1993
Pennsylvania Right to Know components	Isovaleraldehyde	CAS# 590-86-3	Rev. Date: 4/24/1993
New Jersey Right to Know components	Isovaleraldehyde	CAS# 590-86-3	Rev. Date: 4/24/1993
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**HMIS Rating**

Health hazard	2
Chronic Health Hazard	
Flammability	4
Reactive Hazard	0

Further Information

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

Safety Data Sheet



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.

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