

Safety Data Sheet

HEALTH	2
FLAMMABILITY	3
REACTIVITY	0

Section 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product Name	Trans-2-Nonenal 1% in Ethyl Acetate, Natural
Product Number	0321301
CAS-No.	18829-56-6/141-78-6

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
Fax	845-496-6248

1.4 Emergency Telephone Number

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

Section 2: HAZARD(s) IDENTIFICATION

2.1 Classification of the substance or mixture

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

Flammable Liquids (Category 2)
Serious Eye damage/irritation (Category 2A)
Specific target organ toxicity-single exposure (Category 3) narcotic effects
Specific target organ toxicity-single exposure (Category 3), CNS
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label Elements, Including precautionary statements

Pictogram



Signal Statement
Hazard Statement(s)

Danger

H225	Highly flammable liquid and vapor
H315	Causes skin irritation.
H319	Causes serious eye irritation
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness

Precautionary Statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking
P233	Keep container tightly closed

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P240	Ground/bond container and receiving equipment
P241	Use explosion proof electrical/ventilation/lighting equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P261	Avoid breathing mist or vapor
P264	Wash thoroughly after handling
P271	Use only outdoors or in a well-ventilated area
P280	Wear protective gloves/Eye protection/face protection
P381	Eliminate all ignition sources if safe to do so
P302+P352	IF ON SKIN: wash with plenty of water.
P303+P361+P353	IF ON SKIN (or hair) Remove immediately all contaminated clothing. Rinse skin with water/shower
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a comfortable position for breathing
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P321	Specific treatment (see supplemental first aid instructions on this label).
P332+P313	IF SKIN irritation occurs: Get medical advice/attention.
P362	Take off contaminated clothing.
P337-P313	If eye irritation persists – get medical advice/attention.
P370+P378	In case of fire: Use appropriate media for extinction.
P403+P233	Store in well ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 HNO (Hazards not otherwise classified or not covered by GHS)

None

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	Trans-2-nonenal / Ethyl Acetate
Synonym	Acetic acid ethyl ester; Ethyl Ester of Acetic Acid
Formula	C ₉ H ₁₆ O / C ₄ H ₈ O ₂
CAS-No	18829-56-6 / 141-78-6
EC-No	205-500-4

Hazardous Components

Component	Classification	Concentration
Ethyl Acetate	Flam. Liq. 2; Eye Irrit. 2A; STOT CNS 3, H225, H319, H336,	~ 99 %
(E)-Non-2-enal	Flam. Liq. 2; Eye Irrit. 2A; Skin irrit, 3, , STOT SE 3; STOT CNS 3, H225, H319, H315, H336, H335	~ 1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

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

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	of dangerous area.
Inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Contact with skin:	Remove contaminated clothing. Rinse skin with cool water then wash with mild soap and warm water.
Contact with eyes:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Ingestion	DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water.
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	For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective and spread the fire. Cool all affected containers with flooding quantities of water.
5.2 Special hazards arising from the substance or mixture	Highly flammable. Vapors heavier than air. Vapors may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions. Forms explosive mixtures in air Development of hazardous combustion gases or vapors possible in the event of fire – ethanol, acetic acid
5.3 Advice for fire fighters	Wear self contained breathing apparatus for firefighting if necessary.
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. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.
6.2 Environmental precautions	Prevent further leakage or spillage. Discharge into the environment must be avoided. Do not allow to enter drains or sewage system.
6.3 Methods and materials for containment and clean up	Contain spillage, and then collect with an electrically protected vacuum cleaner or by absorbent material, or by wet-brushing and place in container for disposal according to

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local regulations (see section 13). Ventilate area well.

6.4 Reference to other sections

For disposal see section 13.

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. Take measures to prevent the build-up of electrostatic charge.

For precautions see section 2.2.

7.2 Conditions for Safe storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Open containers slowly in order to control possible pressure release. Containers must be carefully resealed and kept upright to prevent leakage.

7.3 Specific End use(s)

Flavorings

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Contains no substances with occupational exposure limit values

8.2 Exposure Controls

Exposure Limits:		Contains substances with Occupational Exposure Limits		
Chemical	CAS#	Value	Control Parameters	Basis
Ethyl Acetate	141-78-6	PEL	1400 mg/m ³ 400 ppm	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Ethyl Acetate	141-78-6	TWA	400 ppm	US. ACGIH Threshold Limit Values
Ethyl Acetate	141-48-6	REL	1400 mg.m ³ 400 ppm	US. NIOSH Pocket Guide to Chemical Hazards

Appropriate Engineering Controls Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and at the end of the workday.

Personal protective equipment

These recommendations are advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situations of anticipated use by our customers. They should not be construed as offering an approval or any specific use scenario.

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.

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 56 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

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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 multipurpose 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

9.1 Information on basic physical and chemical properties

a	Appearance	Form: liquid Color: colorless
b	Odor	Brandy, Ethereal, Fruity
c	Odor Threshold	No data available
d	pH	No data available
e	Melting Point	-83.5°C
f	Boiling point	75-78°C
g	Flash Point	-4°C / 24.8°F
h	Evaporation Rate	83.5°C
i	Flammability (Solid, Gas)	No data available
j	Upper Explosion Limit	11.5 vol %
	Lower Explosion Limit	2.1 vol%
k	Vapor pressure	97 hPa
l	Vapor density	No data available
m	Relative density @25°C	1.067
n	Solubility	Soluble in water; slightly soluble in ethanol, ether, glycol, fixed and volatile oils
o	Partition coefficient: n-octanol/water	No data available
p	Ignition Temp.	427°C
q	Decomposition Temp,	No data available

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r	Viscosity	No data available
s	Explosive properties	No data available
t	Oxidizing properties	Not oxidizing; flammable
u	Specific gravity @25 °C	0.894-0.902
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/Substances to avoid	Incompatible products. Keep away from open flames, hot surfaces and sources of ignition -- Strong oxidizing agents, Strong acids, Amines, Peroxides
10.5	Incompatible materials	No data available
10.6	Hazardous decomposition products	formed under fire conditions – ethanol, acetic acid
10.7	Further Information	Light sensitive; sensitive to air; unsuitable working materials: various plastics. Explosible with air in a vaporous/gaseous state

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

LD50, Oral, Rat	11.3 ml/kg
LC50 Inhalation Rat	1600 ppm (v) /6 h
LD50 Dermal Rabbit	>18000 mg/kg
EYE-HMN	400 ppm

Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	Causes serious eye irritation
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.

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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)	May cause irritation to the respiratory system – Narcotic effect
Specific target organ toxicity-repeated exposures (GHS)	No data available
Aspiration Hazards	No data available
Signs and Symptoms of Exposure	Gastrointestinal disturbance, Nausea, Headache, Vomiting
	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated
Synergistic effects	No data available
RTECS:	AH5425000

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity	
Ecotoxic effects --Aquatic	Fish: LC50 Indian catfish (Heteropneustes fossilis 200.32-225.42 mg/l 96h
12.2 Persistence and degradability	No data available
12.3 Bioaccumulative potential	No data available
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	Do not allow to enter water, drain or soil

Section 13: DISPOSAL CONSIDERATIONS

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

Section 14: TRANSPORT INFORMATION

DOT (US)	UN1173 Class 3 Packing Group II
Proper Shipping Name	Flammable liquid; (Trans-2-nonenal Solution in Ethyl acetate), n.o.s
Reportable Quantity (RQ)	500lbs
Poison Inhalation Hazard:	No
IMDG-Classification	UN1173 Class 3 Packing Group II EMS-No: F-E, S-D
Proper Shipping Name	Flammable liquid; (Trans-2-nonenal Solution in Ethyl acetate), n.o.s
IATA-Classification	UN 1173 Class: 3 Packing group: II
Proper Shipping Name	Flammable liquid; (Trans-2-nonenal Solution in Ethyl acetate), n.o.s

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Section 15: REGULATORY INFORMATION

Sara 302 Extremely Hazardous Substances	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302		
SARA 311/312 Hazards	Fire Hazard, Acute Health Hazard, Chronic Health Hazard		
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		
Massachusetts Right to Know components	No components are subject to the Massachusetts Right to Know Act		
Pennsylvania Right to Know components	Trans-2-Nonenal 1%	CAS# 18829-56-6	Rev. Date:
	Ethyl Acetate	CAS# 141-78-6	Rev. Date:
New Jersey Right to Know components	Trans-2-Nonenal 1%	CAS# 18829-56-6	Rev. Date:
	Ethyl Acetate	CAS# 141-78-6	Rev. Date:
California Prop. 65 components	This product does not contain any chemical known to the 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	3
Physical 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 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:
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Washingtonville, NY 10992 USA	
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Aurochemicals