



synerzine™

SAFETY DATA SHEET

3-Hexen-1-ol, (Z)- (Natural)

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	3-Hexen-1-ol, (Z)- (Natural)
Product number	W01723N
Synonyms; trade names	(Z)-Hex-3-enol cis-3 Hexenol Leaf alcohol 3-HEXENOL cis-3-Hexenol Hex-3(cis)-en-1-ol 3-Hexen-1-ol, (3Z)- cis-3-Hexen-1-ol Hex-3-en-1-ol, (Z)- cis-Hex-3-en-1-ol
CAS number	928-96-1
EC number	213-192-8

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory chemicals, Manufacture of substances.
Uses advised against	No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier	Synerzine 5340 Highway 42 Ellenwood, GA 30294 United States +1 404-524-6744 info@synerzine.com
Contact person	James Elliott

1.4. Emergency telephone number

Emergency telephone	INFOTRAC +1 352-323-3500 (Reference Contract # 102471)
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SECTION 2: Hazards identification

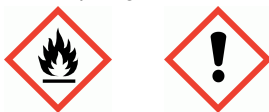
2.1. Classification of the substance or mixture

Classification (EC 1272/2008)	
Physical hazards	Flam. Liq. 3 - H226
Health hazards	Eye Irrit. 2 - H319
Environmental hazards	Not Classified

2.2. Label elements

EC number	213-192-8
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Hazard pictograms



Signal word *Warning*

Hazard statements
H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.

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Precautionary statements	<p><i>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</i></p> <p><i>P233 Keep container tightly closed.</i></p> <p><i>P240 Ground and bond container and receiving equipment.</i></p> <p><i>P241 Use explosion-proof electrical equipment.</i></p> <p><i>P242 Use non-sparking tools.</i></p> <p><i>P243 Take action to prevent static discharges.</i></p> <p><i>P264 Wash contaminated skin thoroughly after handling.</i></p> <p><i>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</i></p> <p><i>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.</i></p> <p><i>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</i></p> <p><i>P337+P313 If eye irritation persists: Get medical advice/ attention.</i></p> <p><i>P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.</i></p> <p><i>P403+P235 Store in a well-ventilated place. Keep cool.</i></p> <p><i>P501 Dispose of contents/ container in accordance with national regulations.</i></p>
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2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	3-Hexen-1-ol, (Z)- (Natural)
CAS number	928-96-1
EC number	213-192-8
Chemical formula	C6H12O

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	<i>Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.</i>
Inhalation	<i>Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.</i>
Ingestion	<i>Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.</i>
Skin contact	<i>Rinse with water.</i>
Eye contact	<i>Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.</i>
Protection of first aiders	<i>First aid personnel should wear appropriate protective equipment during any rescue.</i>

4.2. Most important symptoms and effects, both acute and delayed

General information	<i>See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.</i>
Inhalation	<i>Prolonged inhalation of high concentrations may damage respiratory system.</i>
Ingestion	<i>Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.</i>

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Skin contact *Prolonged contact may cause dryness of the skin.*

Eye contact *Irritating to eyes.*

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor *Treat symptomatically.*

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media *The product is flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.*

Unsuitable extinguishing media *Do not use water jet as an extinguisher, as this will spread the fire.*

5.2. Special hazards arising from the substance or mixture

Specific hazards *Containers can burst violently or explode when heated, due to excessive pressure build-up. Flammable liquid and vapour. Vapours may be ignited by a spark, a hot surface or an ember. Vapours may form explosive mixtures with air. Fire-water run-off in sewers may create fire or explosion hazard.*

Hazardous combustion products *Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.*

5.3. Advice for firefighters

Protective actions during firefighting *Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.*

Special protective equipment for firefighters *Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.*

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions *No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Evacuate area. Provide adequate ventilation. No smoking, sparks, flames or other sources of ignition near spillage. Promptly remove any clothing that becomes contaminated.*

6.2. Environmental precautions

Environmental precautions *Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).*

6.3. Methods and material for containment and cleaning up

Methods for cleaning up *Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. Do not allow material to enter confined spaces, due to the risk of explosion. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.*

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6.4. Reference to other sections

Reference to other sections *For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.*

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions *Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. The product is flammable. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. In use may form flammable/explosive vapour-air mixture. Vapours may accumulate on the floor and in low-lying areas. Use explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.*

Advice on general occupational hygiene *Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.*

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions *Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Eliminate all sources of ignition. Take precautionary measures against static discharges. Earth container and transfer equipment to eliminate sparks from static electricity. Keep away from oxidising materials, heat and flames. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.*

Storage class *Flammable liquid storage.*

7.3. Specific end use(s)

Specific end use(s) *The identified uses for this product are detailed in Section 1.2.*

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Ingredient comments *No exposure limits known for ingredient(s).*

8.2. Exposure controls

Protective equipment



Appropriate engineering controls *Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilating equipment.*

Eye/face protection *Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.*

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Hand protection	<i>Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.</i>
Other skin and body protection	<i>Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.</i>
Hygiene measures	<i>Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.</i>
Respiratory protection	<i>Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.</i>
Environmental exposure controls	<i>Keep container tightly sealed when not in use.</i>

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	<i>Clear liquid.</i>
Colour	<i>Colorless to Yellow</i>
Odour	<i>Characteristic.</i>
Odour threshold	<i>Not available.</i>
pH	<i>Not available.</i>
Melting point	<i>Not available.</i>
Initial boiling point and range	<i>156°C</i>
Flash point	<i>44°C / 111°F Method: Closed cup.</i>
Evaporation rate	<i>Not available.</i>
Upper/lower flammability or explosive limits	<i>Not available.</i>
Vapour pressure	<i>Not available.</i>
Vapour density	<i>xxx.x - (Air - 1.0)</i>
Relative density	<i>Not available.</i>
Solubility(ies)	<i>Not available.</i>
Partition coefficient	<i>Not available.</i>
Auto-ignition temperature	<i>Not available.</i>
Decomposition Temperature	<i>Not available.</i>
Viscosity	<i>Not available.</i>
Explosive properties	<i>Not available.</i>

3-Hexen-1-ol, (Z)- (Natural)

Oxidising properties *Not available.*

9.2. Other information

Molecular weight *xxx.xx g/mol*

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity *See the other subsections of this section for further details.*

10.2. Chemical stability

Stability *Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.*

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions *The following materials may react strongly with the product: Oxidising agents.*

10.4. Conditions to avoid

Conditions to avoid *Avoid heat, flames and other sources of ignition. Containers can burst violently or explode when heated, due to excessive pressure build-up. Static electricity and formation of sparks must be prevented. Do not pressurise, cut, weld, drill, grind or otherwise expose containers to heat or sources of ignition.*

10.5. Incompatible materials

Materials to avoid *Oxidising materials. Acids - oxidising.*

10.6. Hazardous decomposition products

Hazardous decomposition products *Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.*

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Summary *Based on available data the classification criteria are not met.*

Acute toxicity - dermal

Summary *Based on available data the classification criteria are not met.*

Acute toxicity - inhalation

Summary *Based on available data the classification criteria are not met.*

Skin corrosion/irritation

Summary *Based on available data the classification criteria are not met.*

Serious eye damage/irritation

Summary *Causes serious eye irritation.*

Respiratory sensitisation

Summary *Based on available data the classification criteria are not met.*

Skin sensitisation

Summary *Based on available data the classification criteria are not met.*

Germ cell mutagenicity

Summary *Based on available data the classification criteria are not met.*

Carcinogenicity

Summary *Based on available data the classification criteria are not met.*

Reproductive toxicity

Summary *Based on available data the classification criteria are not met.*

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Specific target organ toxicity - single exposure

Summary *Based on available data the classification criteria are not met.*

Specific target organ toxicity - repeated exposure

Summary *Based on available data the classification criteria are not met.*

Aspiration hazard

Summary *Based on available data the classification criteria are not met.*

General information

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation

Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion

Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.

Skin contact

Prolonged contact may cause dryness of the skin.

Eye contact

Irritating to eyes.

Route of exposure

Ingestion Inhalation Skin and/or eye contact

Target organs

No specific target organs known.

SECTION 12: Ecological information

Ecotoxicity

Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Acute aquatic toxicity

Summary *Based on available data the classification criteria are not met.*

Chronic aquatic toxicity

Summary *Based on available data the classification criteria are not met.*

12.2. Persistence and degradability

Persistence and degradability *The degradability of the product is not known.*

12.3. Bioaccumulative potential

Bioaccumulative potential *No data available on bioaccumulation.*

Partition coefficient

Not available.

12.4. Mobility in soil

Mobility *No data available.*

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Other adverse effects *None known.*

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information

The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

3-Hexen-1-ol, (Z)- (Natural)

Disposal methods *Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible. Vapour from residual product may create a highly flammable or explosive atmosphere inside the container. Containers should be thoroughly emptied before disposal because of the risk of an explosion. Do not cut or weld used containers unless they have been thoroughly cleaned internally.*

SECTION 14: Transport information

General *For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.*

14.1. UN number

UN No. (ADR/RID)	1987
UN No. (IMDG)	1987
UN No. (ICAO)	1987
UN No. (ADN)	1987

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ALCOHOLS, N.O.S. (3-Hexen-1-ol, (Z)-)
Proper shipping name (IMDG)	ALCOHOLS, N.O.S. (3-Hexen-1-ol, (Z)-)
Proper shipping name (ICAO)	ALCOHOLS, N.O.S. (3-Hexen-1-ol, (Z)-)
Proper shipping name (ADN)	ALCOHOLS, N.O.S. (3-Hexen-1-ol, (Z)-)

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

3-Hexen-1-ol, (Z)- (Natural)

EmS	F-E, S-D
ADR transport category	3
Emergency Action Code	•3Y
Hazard Identification Number (ADR/RID)	30
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code *Not applicable.*

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations	<i>Health and Safety at Work etc. Act 1974 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.</i>
EU legislation	<i>Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).</i>

15.2. Chemical safety assessment

Inventories

Canada - DSL/NDSL
DSL

US - TSCA
Present.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	<i>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail. IATA: International Air Transport Association. ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air. IMDG: International Maritime Dangerous Goods. CAS: Chemical Abstracts Service. ATE: Acute Toxicity Estimate. LC₅₀: Lethal Concentration to 50 % of a test population. LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose). EC₅₀: 50% of maximal Effective Concentration. PBT: Persistent, Bioaccumulative and Toxic substance. vPvB: Very Persistent and Very Bioaccumulative.</i>
Classification abbreviations and acronyms	<i>Flam. Liq. = Flammable liquid Eye Irrit. = Eye irritation</i>
Classification procedures according to Regulation (EC) 1272/2008	<i>Eye Irrit. 2 - H319: : Expert judgement. Flam. Liq. 3 - H226: : Expert judgement.</i>
Training advice	<i>Read and follow manufacturer's recommendations. Only trained personnel should use this material.</i>

3-Hexen-1-ol, (Z)- (Natural)

Revision comments	<i>NOTE: Lines within the margin indicate significant changes from the previous revision.</i>
Revision date	21/03/2019
Revision	1
SDS number	1203
Hazard statements in full	<i>H226 Flammable liquid and vapour. H319 Causes serious eye irritation.</i>
End of Safety Data Sheet	

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.