

Safety Data Sheet

Section 1: Product & Company Identification

Product Name:	all- <i>trans</i> Retinal
Product #:	R-1048
Synonyms:	Retinaldehyde; Vitamin A aldehyde
Supplier:	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego, CA 92131 Tele# + 858-452-9925
Emergency Tele#:	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

Section 2: Composition / Information on Ingredients

Component	CAS #	EC #	% Composition
all- <i>trans</i> Retinal	116-31-4	204-135-8	

Section 3: Hazards Identification

Symbols	
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HMIS Rating

Health Hazard	Chronic Health Hazard	Flammability	Physical Hazard
2	0	0	0

NFPA Rating

Health Hazard	Fire Hazard	Reactivity Hazard
2	0	0

Section 4: First Aid Measures

General Overview:	Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Inhalation:	In case of unconsciousness place patient stably in side position for transportation.
Skin:	Immediately wash with water and soap and rinse thoroughly.

Eyes:	Rinse opened eyes for several minutes under running water.
Ingestion:	Immediately call a doctor.
	See section 11 for more detailed information on health effects & symptoms.

SECTION 5: Fire Fighting Measures

Flammability of the product:	Product is not flammable.
Extinguishing Media:	Use firefighting measures that suit the environment. A solid water stream may be inefficient.
Hazardous thermal (de)composition products:	No data available
Special Fire Fighting Procedures:	No special measures required.
Flash Point:	No data available


Section 6: Accidental Release Measures




Personal Precautions:	Not required.
Environmental Precautions:	Do not allow to enter sewers/surface or ground water.
Methods for Clean-up:	Dispose contaminated material as waste according to Section 13.

SECTION 7: Handling & Storage

Storage:	Recommended storage temperature: -20°C
Handling:	Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge.

SECTION 8: Exposure controls / Personal Protection

Respiratory Protection:	 <p>Not required.</p>
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Skin and Body:	  <p>Protective gloves and lab coat.</p>
Eyes:	 <p>Not required.</p>
Ventilation/Engineering Measures:	Ensure adequate ventilation.
Hygiene:	The usual precautionary measures for handling chemicals should be followed.
Other:	N/A

SECTION 9: Physical and Chemical Properties

Appearance & Odor:	Solid, characteristic odor
Formula	$C_{20}H_{28}O$
Molecular Wt.	284.4
Melting Pt.	No data available
Boiling Pt.	No data available
Density:	No data available
Vapor Pressure:	No data available
Evaporation Rate:	No data available
Vapor Density:	No data available
Solubility:	DMF, DMSO, Ethanol, Ethanol:PBS (pH 7.2)(1:2)
Flash Point:	No data available
Autoignition Temp:	No data available

SECTION 10: Stability and Reactivity

Stability:	Stable under recommended storage conditions.
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Hazardous decomposition products:	Carbon oxides
Materials to Avoid:	Oxidizing agents
Conditions to avoid:	No data available

SECTION 11: Toxicological Information

RTECS#:	VH6407000
ACUTE Toxicity:	<p>Primary Irritant Effect:</p> <ul style="list-style-type: none"> • On the skin: Irritant to skin and mucous membranes • On the eye: No irritating effect • Sensitization: No sensitizing effects known
CHRONIC Toxicity:	No data available
Chronic Exposure: Carcinogen: Mutagen: Teratogen: Reproductive:	<p>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.</p> <p>AGGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, potential human carcinogen by ACGIH.</p> <p>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated human carcinogen by NTP.</p> <p>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as known or potential human carcinogen by OSHA.</p> <p>EPA: No classification on carcinogenic data is available from EPA</p>

SECTION 12: Ecological Information

Ecotoxicity:	Water hazard class 1 (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Mobility:	No data available
Persistence and degradability:	No data available
Bioaccumulative potential:	No data available
Other adverse effects:	No data available
Corrosivity Characteristic:	No data available
General Notes:	No data available

SECTION 13: Disposal Considerations

Residue Waste or Unused product:	Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Contaminated Packaging:	Disposal must be made according to official regulations.

SECTION 14: Transportation Information

UN ID#:	N/A
ADR / RID (LAND):	Not regulated
DOT regulations:	Not regulated
IMDG/IMO (SEA):	Not regulated
IATA/DGR (AIR):	Not regulated
Special Provisions:	N/A

SECTION 15: Regulatory Information

Health Phrases:	Danger! H302 Harmful if swallowed. H315 Causes skin irritation. H360 May damage fertility or the unborn child. H413 May cause long lasting harmful effects to aquatic life.
Risk Phrases:	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P264 Wash thoroughly after handling. P270 Do not eat, drink, or smoke when using this product. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection
Safety Phrases:	P301+P312 If swallowed: Call a poison center/doctor if you feel unwell. P330 Rinse mouth. P302+P352 If on skin: Wash with plenty of water. P308+P313 IF exposed or concerned: Get medical advice/attention. P321 Specific treatment (see on this label). P362+P364 Take off contaminated clothing and wash it before reuse. P332+P313 If skin irritation occurs: Get medical advice/attention. P405 Store locked up. P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
EU Regulations:	N/A
US Regulations:	TSCA: Listed California Proposition 65: No products were found
U.S. Federal Regulations:	SARA 302/304 emergency planning and notification: No products were found.

	<p>SARA 311/312 MSDS distribution-chemical inventory-hazard identification: No products were found.</p> <p>SARA 313 toxic chemicals notification and release reporting: No products were found.</p> <p>Clean Water Act (CWA) 307: No products were found.</p> <p>Clean Water Act (CWA) 311: No products were found.</p> <p>Clean Air Act (CAA) 112 accidental release prevention: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated flammable substances: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated toxic substances: No products were found.</p> <p>OSHA: Toxic to reproduction (Cat. 1B); Acute toxicity - oral (Cat. 4); Skin irritation (Cat. 2); Aquatic - chronic (Cat. 4)</p>
WHMIS (Canada):	N/A

SECTION 16: Other Information

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