

## Safety Data Sheet

### Section 1: Product & Company Identification

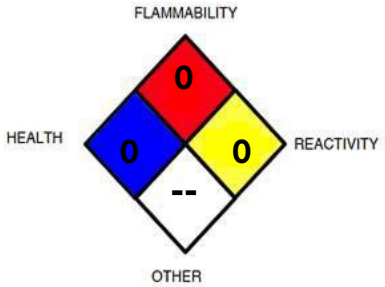
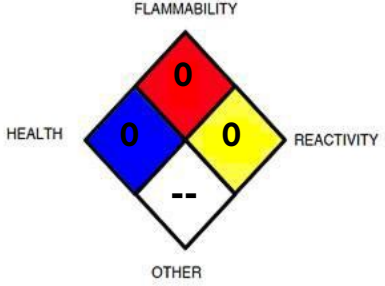
<b>Product Name:</b>	Pyruvate Oxidase
<b>Product #:</b>	P-1600
<b>Synonyms:</b>	Pox; Pyruvic oxidase; POPG
<b>Supplier:</b>	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego CA 92131 Tele# + 858-452-9925
<b>Emergency Tele#:</b>	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

### Section 2: Composition / Information on Ingredients

Component	CAS#	EC #	Concentration (wt %)
Enzyme protein	9001-96-1	232-644-5	60 - 80
Sucrose	57-50-1	200-334-9	17 - 29
Tris(hydroxymethyl) aminomethane	77-86-1	201-064-4	2 - 6
Dipotassium hydrogenphosphate	7758-11-4	231-834-5	0.1 - 1
Potassium dihydrogenphosphate	7778-77-0	231-913-4	0.1 - 1
Flavin adenine dinucleotide sodium	84366-81-4	282-733-8	1 - 3

### Section 3: Hazards Identification

<b>Symbols</b>	N/A
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<b>HMIS Classification</b>	
<b>NFPA Classification</b>	

## Section 4: First Aid Measures

<b>General Overview:</b>	Not hazardous.
<b>Inhalation:</b>	If inhaled large amount and symptoms occur, remove victim to fresh air and keep at rest. Get medical advice as appropriate.
<b>Skin:</b>	Rinse with plenty of water and soap. If allergic reactions occur, get medical advice as appropriate.
<b>Eyes:</b>	Immediately rinse cautiously with clean water. If symptoms occur, immediately get medical advice/attention.
<b>Ingestion:</b>	Rinse mouth. If symptoms occur, immediately get medical advice/attention.
	See section 11 for more detailed information on health effects & symptoms.

## SECTION 5: Fire Fighting Measures

<b>Flammability of the product:</b>	No data available
<b>Extinguishing Media:</b>	Use water mist, dry chemical powder, carbon dioxide or dry sand. Applying direct water may be dangerous because fire may expand to surroundings.
<b>Hazardous thermal (de)composition products:</b>	In case of fire, toxic decomposition products may be generated.
<b>Special Fire Fighting Procedures:</b>	Take action from windward. Use respiratory protective equipment. Move container to a safe area if it can be done without risk. If it is not possible to move, cool the container and surrounding area with water. Keep out except responsible personnel. Cut off any ignition sources and extinguish with an

	appropriate agent. Cool the surrounding tank and the buildings with direct water jet to avoid risk of fire spreading. In first-aid firefighting, use water mist and fire foam. In case of a large fire, quickly extinguish using alcohol-resistant foams.
<b>Flash Point:</b>	No data available

## Section 6: Accidental Release Measures




<b>Personal Precautions:</b>	Wear suitable protective equipment (see SECTION 8) e.g., safety gloves, protective mask and/or protective glasses to prevent exposure. If scattering of large amounts of dust is expected during the procedures, wear protective glasses, protective mask and/or safety gloves to prevent contact to the body.
<b>Environmental Precautions:</b>	Be careful not to get large amounts of this product scattered or release into the environment. Take care not to release large amounts of spilled material into the environment avoiding causing local effects.
<b>Methods for Clean-up:</b>	In case of a large amount, sweep up scattered materials or vacuum them using a vacuum cleaner then collect them into an empty container. In case of a small amount, wash out with a plenty of water.

## SECTION 7: Handling & Storage

<b>Storage:</b>	Avoid sunlight. Store in a cool, dry and dark place (-20 to -80°C) with desiccants.
<b>Handling:</b>	After taking out from cool and dark place (-20 to -80°C), ensure that the product in the container become room temperature before opening it to prevent moisture absorption. Install appropriate equipment and wear suitable protective apparatus to prevent inhaling or contact with eyes, skin, or clothes. Install eye washer and hand washer around the handling area. Use only at well-ventilated area without moisture. Avoid making impacts on container or handling violently.

## SECTION 8: Exposure controls / Personal Protection

<b>Respiratory Protection:</b>	 <p>Wear dust mask as necessary.</p>
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<b>Skin and Body:</b>	  <p>Wear protective gloves as necessary.</p>
<b>Eyes:</b>	 <p>Wear safety glasses or goggles as necessary.</p>
<b>Ventilation/Engineering Measures:</b>	Because the powder is light and easy to scatter, handle only in a calm place. Use sealed instrument or local ventilation as necessary.
<b>Hygiene:</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Other:</b>	Components with biological exposure limits: ACGIH TLV-TWA (2019) 10 mg/m <sup>3</sup> (Sucrose)

## SECTION 9: Physical and Chemical Properties

<b>Appearance &amp; Odor:</b>	Yellowish lyophilized powder, slightly characteristic odor
<b>Formula</b>	N/A
<b>Molecular Wt.</b>	N/A
<b>Melting Pt.</b>	No data available
<b>Boiling Pt.</b>	No data available
<b>Density:</b>	No data available
<b>Vapor Pressure:</b>	No data available
<b>Evaporation Rate:</b>	No data available
<b>Vapor Density:</b>	No data available
<b>Solubility:</b>	Water
<b>Flash Point:</b>	No data available
<b>Autoignition Temp:</b>	No data available

## SECTION 10: Stability and Reactivity

<b>Stability:</b>	Stable for one year under recommended storage conditions.
<b>Hazardous decomposition products:</b>	No data available

<b>Materials to Avoid:</b>	No data available
<b>Conditions to avoid:</b>	High temperature, high humidity and moisture absorption can stop enzyme activity.

## SECTION 11: Toxicological Information

<b>RTECS#:</b>	N/A
<b>ACUTE Toxicity:</b>	N/A
<b>CHRONIC Toxicity:</b>	N/A
<b>Chronic Exposure:</b> <b>Carcinogen:</b> <b>Mutagen:</b> <b>Teratogen:</b> <b>Reproductive:</b>	<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

<b>Ecotoxicity:</b>	Toxicity to fish is expected to be low.
<b>Mobility:</b>	No data available
<b>Persistence and degradability:</b>	This product is readily biodegradable.
<b>Bioaccumulative potential:</b>	Bioaccumulative potential is expected to be low.
<b>Other adverse effects:</b>	No data available
<b>Corrosivity Characteristic:</b>	No data available
<b>General Notes:</b>	To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

## SECTION 13: Disposal Considerations

<b>Residue Waste or Unused product:</b>	Dispose of waste in accordance with applicable local, regional, and international regulations and standards.
<b>Contaminated Packaging:</b>	Containers should completely be cleaned up before disposal.

## SECTION 14: Transportation Information

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

## SECTION 15: Regulatory Information

<b>Health Phrases:</b>	Not hazardous
<b>Risk Phrases:</b>	N/A
<b>Safety Phrases:</b>	N/A
<b>EU Regulations:</b>	N/A
<b>US Regulations:</b>	TSCA: Not listed California Proposition 65: No products were found
<b>U.S. Federal Regulations:</b>	SARA 302/304 emergency planning and notification: No products were found. SARA 311/312 MSDS distribution-chemical inventory-hazard identification: No products were found. SARA 313 toxic chemicals notification and release reporting: No products were found.  Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: No products were found. Clean Air Act (CAA) 112 accidental release prevention: No products were found. Clean Air Act (CAA) 112 regulated flammable substances: No products were found. Clean Air Act (CAA) 112 regulated toxic substances: No products were found. OSHA: No products were found.
<b>WHMIS (Canada):</b>	N/A

## SECTION 16: Other Information

**LIABILITY STATEMENT:** *The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. AG Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. AG Scientific products are for research purposes only. Not for human use or consumption.*