

Safety Data Sheet

Section 1: Product & Company Identification

Product Name:	ADP-Dependent Hexokinase
Product #:	H-2800
Synonyms:	D-Hexose-6-phosphotransferase; ADP-HKT II
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
Enzyme protein	173585-07-4		90-99
Tris(hydroxymethyl)aminomethane	77-86-1	201-064-4	1-10

Section 3: Hazards Identification

Symbols	N/A
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HMIS Rating

Health Hazard	Chronic Health Hazard	Flammability	Physical Hazard

NFPA Rating

Health Hazard	Fire Hazard	Reactivity Hazard

Section 4: First Aid Measures

General Overview:	Follow standard good industrial hygiene.
Inhalation:	If inhaled large amount and symptoms occur, remove victim to fresh air and keep at rest. Get medical advice as appropriate.
Skin:	Rinse with plenty of water and soap. If allergic reactions occur, get medical advice as appropriate.

Eyes:	Immediately rinse cautiously with clean water. If symptoms occur, immediately get medical advice/attention.
Ingestion:	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

Flammability of the product:	No data available
Extinguishing Media:	Use water mist, dry chemical powder, carbon dioxide, or dry sand. Applying direct water may be dangerous because fire may expand to surroundings.
Hazardous thermal (de)composition products:	In case of fire, toxic decomposition products may be generated.
Special Fire Fighting Procedures:	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 building 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.
Flash Point:	No data available





Section 6: Accidental Release Measures

Personal Precautions:	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.
Environmental Precautions:	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.
Methods for Clean-up:	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

Storage:	Avoid sunlight. Store in a cool, dry, and dark place with desiccants. Recommended storage temperature: -20°C
Handling:	Wash hands thoroughly after handling. Do not eat, drink, or smoke when using this product. Wash contaminated clothing before reuse.

SECTION 8: Exposure controls / Personal Protection

Respiratory Protection:		Wear dust mask as necessary.
Skin and Body:	 	Wear protective gloves and lab coat as necessary.
Eyes:		Wear safety glasses or goggles as necessary.
Ventilation/Engineering Measures:	Because the powder is light and easy to scatter, handle only in a calm place. Use sealed instruments or local ventilation as necessary.	
Hygiene:	Follow standard good industrial hygiene practices.	
Other:	Contains no substances with occupational exposure limit values.	

SECTION 9: Physical and Chemical Properties

Appearance & Odor:	White lyophilized powder. Slight characteristic odor.
Formula	N/A
Molecular Wt.	N/A
Melting Pt.	N/A
Boiling Pt.	N/A
Density:	N/A
Vapor Pressure:	N/A
Evaporation Rate:	N/A

Vapor Density:	N/A
Solubility:	Water
Flash Point:	N/A
Autoignition Temp:	N/A

SECTION 10: Stability and Reactivity

Stability:	Stable for one year under a cool and dark place (-20°C)
Hazardous decomposition products:	No data available
Materials to Avoid:	No data available
Conditions to avoid:	High temperature, high humidity, and moisture absorption can stop enzyme activity.

SECTION 11: Toxicological Information

RTECS#:	N/A
ACUTE Toxicity:	N/A
CHRONIC Toxicity:	N/A
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:	Toxicity to fish is expected to be low.
Mobility:	No data available
Persistence and degradability:	This product is readily biodegradable.
Bioaccumulative potential:	Bioaccumulative potential is expected to be low.
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:	Dispose of waste in accordance with applicable local, regional and international regulations and standards.
Contaminated Packaging:	Containers should completely be cleaned up before disposal.

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:	When transporting, avoid direct sunlight. Confirm no leakage to containers. When loading, prevent containers from falling, dropping off or damaging. Take preventive measures of collapse.

SECTION 15: Regulatory Information

Health Phrases:	Not hazardous
Risk Phrases:	N/A
Safety Phrases:	N/A
EU Regulations:	N/A
US Regulations:	TSCA: Not listed California Proposition 65: No products were found
U.S. Federal Regulations:	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: N/A
WHMIS (Canada):	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.*