

## Safety Data Sheet


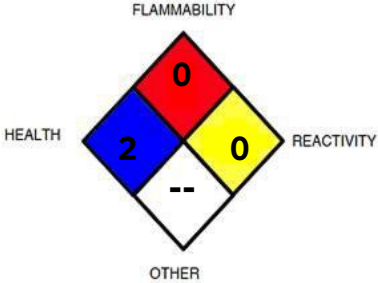
### Section 1: Product & Company Identification

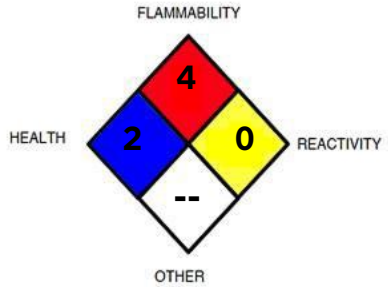
<b>Product Name:</b>	X-GAL and IPTG Ready to Use Non-Toxic Solution
<b>Product #:</b>	G-2570
<b>Synonyms:</b>	-
<b>Supplier:</b>	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego, CA 92131 Tele# + 858-452-9925
<b>Emergency Tele#:</b>	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

### Section 2: Composition / Information on Ingredients

Component	CAS #	EC #	% Composition
1-Methyl-2-Pyrrolidone	872-50-4	212-828-1	80.0 - 90.0
Water	7732-18-5	231-791-2	10.0 - 20.0
X-GAL	7240-90-6	230-640-8	1.0 - 5.0
IPTG	367-93-1	206-703-0	< 1.0

### Section 3: Hazards Identification

<b>Symbols</b>	
<b>HMIS Classification</b>	<p>FLAMMABILITY</p> <p>HEALTH</p> <p>REACTIVITY</p> <p>OTHER</p> 

<b>NFPA Classification</b>	
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## Section 4: First Aid Measures

<b>General Overview:</b>	Consult a doctor and show this safety data sheet.
<b>Inhalation:</b>	Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.
<b>Skin:</b>	Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor.
<b>Eyes:</b>	Flush with copious amounts of water for at least 15 minutes. Consult a doctor.
<b>Ingestion:</b>	Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor.
	See section 11 for more detailed information on health effects & symptoms.

## SECTION 5: Fire Fighting Measures

<b>Flammability of the product:</b>	Flammable
<b>Extinguishing Media:</b>	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
<b>Hazardous thermal (de)composition products:</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Nitrogen oxides (NO <sub>x</sub> )
<b>Special Fire Fighting Procedures:</b>	Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.
<b>Flash Point:</b>	No data available

## Section 6: Accidental Release Measures




<b>Personal Precautions:</b>	Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas.
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<b>Environmental Precautions:</b>	Do not let product enter drains.
<b>Methods for Clean-up:</b>	Cover spillage with suitable absorbent material. Using non-spark tools, sweep up material and place in an appropriate container. Decontaminate spill site with 10% caustic solution and ventilate area until after disposal is complete. Hold all material for appropriate disposal as described under section 13 of SDS.

## SECTION 7: Handling & Storage

<b>Storage:</b>	Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use. Keep in a dry place. Store at 2-8° C.
<b>Handling:</b>	Use in a chemical fume hood, with air supplied by an independent system. Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

## SECTION 8: Exposure controls / Personal Protection

<b>Respiratory Protection:</b>	 <p>Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.</p>
<b>Skin and Body:</b>	  <p>Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Wear appropriate protective clothing. Complete suit protecting against chemicals, the type of protective equipment must be selected according to the</p>

	concentration and amount of the dangerous substance at the specific workplace.
<b>Eyes:</b>	 <p>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).</p>
<b>Ventilation/Engineering Measures:</b>	Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station. Do not let product enter drains.
<b>Hygiene:</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Other:</b>	Components with workplace control parameters: 1-Methyl-2-Pyrrolidone (CAS 872-50-4), 80.0 – 90.0%, TWA: 400 mg/m <sup>3</sup>

## SECTION 9: Physical and Chemical Properties

<b>Appearance &amp; Odor:</b>	Liquid
<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 under recommended storage conditions.
<b>Hazardous decomposition products:</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Nitrogen oxides (NO <sub>x</sub> ).

<b>Materials to Avoid:</b>	Strong oxidizing agents, strong acids, strong bases
<b>Conditions to avoid:</b>	Heat, flames, sparks, exposure to direct sunlight.

## SECTION 11: Toxicological Information

<b>RTECS#:</b>	N/A
<b>ACUTE Toxicity:</b>	1-Methyl-2-Pyrrolidon (CAS 872-50-4): LD50 Oral = 3,598 mg/kg (Rat) LD50 Dermal = 8 g/kg (Rabbit) LD50 Inhalation = 3.1 mg/L (Rat)
<b>CHRONIC Toxicity:</b>	N/A
<b>Chronic Exposure:</b> <b>Carcinogen:</b> <b>Mutagen:</b> <b>Teratogen:</b> <b>Reproductive:</b>	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. 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. 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. 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. EPA: No classification on carcinogenic data is available from EPA

## SECTION 12: Ecological Information

<b>Ecotoxicity:</b>	1-Methyl-2-Pyrrolidon (CAS 872-50-4) Freshwater Algae: EC50 = 500 mg/L > 72 h Freshwater Fish: LC50 = 1,072 mg/L 96 h LC50 = 4,000 mg/L 96 h LC50 = 832 mg/L 96 h LC50 = 1,400 mg/L 96 h Water Flea: EC50 = 4,897 mg/L 48 h
<b>Mobility:</b>	1-Methyl-2-Pyrrolidon (CAS 872-50-4): log Pow = -0.46
<b>Persistence and degradability:</b>	No data available
<b>Bioaccumulative potential:</b>	No data available
<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>	Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations.
<b>Contaminated Packaging:</b>	Dispose of container and unused contents in accordance with federal, state and local requirements.

### 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>	H227 Combustible liquid. H315 Causes skin irritation H319 Cause Serious Eye irritation H335 May cause respiratory irritation H360 May damage fertility or the unborn
<b>Risk Phrases:</b>	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking. P261 Avoid breathing dust/fume/gas/mist/vapors/spray. P271 Use only outdoors or in a well-ventilated area. P264 Wash skin thoroughly after handling P280 Wear protective gloves/protective clothing/eye protection/face protection.
<b>Safety Phrases:</b>	P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable 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. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P321 Specific treatment (see. on this label). P332 + P313 If skin irritation occurs: Get medical advice/attention.

	<p>P337+P313 If eye irritation persists: Get medical advice/attention.  P362 + P364 Take off contaminated clothing and wash before reuse.  P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  P403 + P235 Store in a well-ventilated place. Keep cool.  P405 Store locked up.  P501 Dispose of contents/ container to an approved waste disposal plant.</p>
<b>EU Regulations:</b>	N/A
<b>US Regulations:</b>	<p>TSCA: 1-Methyl-2-Pyrrolidon (CAS 872-50-4), Water (CAS 7732-18-5), IPTG (CAS 367-93-1)</p> <p>California Proposition 65: 1-Methyl-2-Pyrrolidon (CAS 872-50-4), Developmental, Threshold Value: 1.0%</p> <p>Massachusetts State Right to Know: Listed  New Jersey State Right to Know: Listed  Pennsylvania State Right to Know: Listed</p>
<b>U.S. Federal Regulations:</b>	<p>SARA 302/304 emergency planning and notification: No products were found.</p> <p>SARA 311/312 MSDS distribution-chemical inventory-hazard identification: Acute Health Hazard, Chronic Health Hazard, Fire Hazard</p> <p>SARA 313 toxic chemicals notification and release reporting: 1-Methyl-2-Pyrrolidon (CAS 872-50-4)</p> <p>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.</p> <p>OSHA: Flammable liquids (Cat. 4); Skin corrosion/irritation (Cat. 2); Serious eye damage/eye irritation (Cat. 2); Specific target organ toxicity - single exposure - respiratory tract irritation (Cat. 3); Reproductive toxicity (Cat. 1)</p>
<b>WHMIS (Canada):</b>	DSL: 1-Methyl-2-Pyrrolidon (CAS 872-50-4), Water (CAS 7732-18-5), IPTG (CAS 367-93-1), X-GAL (CAS 7240-90-6)

## 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.*