SECTION 1: Identification of the substance or mixture

Product Code: CP3402
Product Name: PCR Master Mix for Acuitas AMR Gene Panel, for use as a laboratory chemical

Manufacturer or Supplier's Details
Company: OpGen, Inc
9717 Key West Avenue, Suite 100
Rockville, MD 20850
USA
+1 301 869 9683
technicalsupport@opgen.com

24-hour Emergency Response: ChemTel, Inc.
800-255-3924
Outside of the U.S. +1-813-248-0585

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification
Signal Word: None
Health Hazards: None
Physical Hazards: Not Classified
Environmental Hazards: Not Classified
Hazard Statements: Not Applicable

Precautionary Statements
Prevention: Not Applicable
Response: Not Applicable
Storage: Not Applicable
Disposal: Not Applicable

Other Hazards: Not Applicable

HMIS
Health: 0
Flammability: 0
Reactivity: 0
SECTION 3: COMPOSITION OF INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>EINECS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>56-81-5</td>
<td>--</td>
<td>10-30</td>
</tr>
<tr>
<td>Sodium Azide</td>
<td>26628-22-8</td>
<td>--</td>
<td>&lt;0.1</td>
</tr>
</tbody>
</table>

The product contains no substances which at their given concentration, are considered to be hazardous to health.

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

Skin contact: Rinse with plenty of water. Immediate medical attention is not required.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Ingestion: Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.

Inhalation: Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed: Not Applicable

Notes to Physician: Treat symptomatically.

Indication of any immediate medical attention and special treatment needed: None

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Water spray. Carbon dioxide (CO2). Foam. Dry chemical

Unsuitable extinguishing media: No information available.

Special hazards arising from the substance or mixture: No information available

Advice for fire-fighters: Standard procedure for chemical fires

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation
Always wear recommended Personal Protective Equipment. Use personal protection equipment
See Section 8 for more detail.

Environmental precautions: No special environmental precautions required.
Safety Data Sheet
Acuitas® AMR Gene Panel PCR Master Mix

Methods and materials for containment and cleaning up:
Soak up with inert absorbent material.

Reference to other Sections
See section 8 for more information

SECTION 7: HANDLING AND STORAGE

Precautions for safe Handling:
Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage including any incompatibilities:
Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Specific end use(s):
For Laboratory Use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL</th>
<th>OSHA PEL (Ceiling)</th>
<th>ACGIH OEL (TWA)</th>
<th>ACGIH OEL (STEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>15 mg/m3</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>5 mg/m3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Azide</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Engineering Measures: Ensure adequate ventilation, especially in confined areas.

Exposure Controls:

Personal Protective Equipment:

Respiratory Protection: In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.


Eye Protection: Tight sealing safety goggles.

Skin and Body Protection: Wear suitable protective clothing.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls: No special environmental precautions required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Appearance: Liquid

Odor: No data available

pH: Mixture has not been tested

Melting Point / Melting Range: °C >0 °C >32

Boiling Point / Boiling Range: °C >100 °C >212
Safety Data Sheet

Acuitas® AMR Gene Panel PCR Master Mix

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point:</td>
<td>°C &gt;90</td>
</tr>
<tr>
<td>Autoignition Temperature:</td>
<td>°C Mixture has not been tested</td>
</tr>
<tr>
<td>Decomposition Temperature:</td>
<td>°C Mixture has not been tested</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper explosion limit:</td>
<td>Mixture has not been tested</td>
</tr>
<tr>
<td>Lower explosion limit:</td>
<td>Mixture has not been tested</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>Mixture has not been tested</td>
</tr>
<tr>
<td>Relative density:</td>
<td>Mixture has not been tested</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Partition Coefficient:</td>
<td>No data available</td>
</tr>
<tr>
<td>n-octanol/water:</td>
<td></td>
</tr>
<tr>
<td>Explosive Properties:</td>
<td>Mixture has not been tested</td>
</tr>
<tr>
<td>Other Information:</td>
<td>No data available</td>
</tr>
</tbody>
</table>

SECTION 10: STABILITY AND REACTIVITY

Reactivity: None known
Chemical Stability: Stable under normal conditions.
Possibility of hazardous reactions: Hazardous reaction has not been reported.
Conditions to Avoid: None under normal processing.
Hazardous Decomposition Products: Carbon Oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological effects:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 (oral, rat/mouse)</th>
<th>LD50 (dermal, rat/rabbit)</th>
<th>LC50 (inhalation, rat/mouse)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>12600 mg/kg (Rat)</td>
<td>No data available</td>
<td>&gt;570 mg/m³ (rat)</td>
</tr>
<tr>
<td>Sodium Azide</td>
<td>= 27 mg/kg (rat)</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Principle Routes of Exposure:

DCR 21-0033
Safety Data Sheet

Acuitas® AMR Gene Panel PCR Master Mix

Irritation: Conclusive but not sufficient for classification.
Corrosivity: Conclusive but not sufficient for classification.
Sensitization: Conclusive but not sufficient for classification.
STOT – Single Exposure Conclusive but not sufficient for classification.
STOT – Repeated Exposure Conclusive but not sufficient for classification.
Carcinogenicity: Conclusive but not sufficient for classification.
Mutagenicity: Conclusive but not sufficient for classification.
Reproductive Toxicity: Conclusive but not sufficient for classification.
Aspiration Hazard: Conclusive but not sufficient for classification.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity: The environmental impact of this product has not been fully investigated.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Freshwater Algae Data</th>
<th>Water Flea Data</th>
<th>Freshwater Fish Species Data</th>
<th>Microtox Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>No data available</td>
<td>Daphnia magna EC50&gt;500 mg/L (24h)</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Sodium Azide</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Persistence and Degradability: Inherently biodegradable.
Bioaccumulative potential: Material does not bioaccumulate.
Results of PBT and vPvB assessment: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Other adverse effects: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods:
The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.
SECTION 14: Transport Information

IATA / ADR / DOT-US / IMDG
UN Number: Not applicable
UN Proper Shipping Name: Not applicable
Transport Hazard Class(es): Not applicable
Packing Group Not applicable

Environmental Hazards: Not applicable

Special Precautions for User: Not applicable

Transport in Bulk According to Annex II of MARPOL 73-78 and the IBC Code: Not applicable

SECTION 15: REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>Component</th>
<th>US TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 56-81-5 (10-30)</td>
<td>Listed</td>
</tr>
<tr>
<td>Sodium Azide 26628-22-8 (&lt;0.1)</td>
<td>Listed</td>
</tr>
</tbody>
</table>

US Federal Regulations:

SARA 313: This product is not regulated by SARA.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight%</th>
<th>SARA 313- Threshold Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM AZIDE</td>
<td>26628-22-8</td>
<td>&lt;0.1</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61) This product does not contain HAPs.

US State Regulations

California Proposition 65 This product does not contain any Proposition 65 chemicals.

WHMIS Hazard Class Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.
Safety Data Sheet
Acuitas® AMR Gene Panel PCR Master Mix

SECTION 16: OTHER INFORMATION

Reason for Revision: Update OpGen logo and manufacturer/Supplier address. Remove u5.47 references.
Revision number: B
Revision date: 01Jul2021
For Laboratory Use

References

- ECHA: http://echa.europa.eu/
- TOXNET: http://toxnet.nih.gov/
- LOLI database: https://www.chemadvisor.com/loli-database

“The above information was acquired by diligent search and/or investigation and the recommendations are
based on prudent application of professional judgment. The information shall not be taken as being all inclusive
and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used
with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company
shall not be held liable for any damages or losses resulting from the handling or from contact with the product as
described herein.

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End of Safety Data Sheet