

Product Name: Beadlite™ Rapid Colorimetric Thiol Quantitation Kit for Nanoparticles

Catalog Number: 5535

<i>Chemical Name</i>	<i>CAS#</i>	<i>EINECS#</i>	<i>Appearance</i>	<i>Water Solubility</i>
Component A: Thiolite™ 490	N/A	N/A	Solid	Moderate
Component B: Assay Buffer (10X)	N/A	N/A	Liquid	High
Component C: DMSO	67-68-5	N/A	Liquid	High

Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: Beadlite™ Rapid Colorimetric Thiol Quantitation Kit for Nanoparticles
Product number: 5535

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: For research use only. Not intended for diagnostic or therapeutic use.

1.3 Details of the supplier of the datasheet

Company: AAT Bioquest, Inc.
Address: 5775 W Las Positas Blvd, Pleasanton, CA 94588
Telephone: (408)-733-1055
Fax: (408)-733-1304
Email: info@aatbio.com

1.4 Emergency telephone number

Chemtrec (Within USA): 1-(800)-424-9300
Chemtrec (Outside USA): 1-(703)-527-3887

Section 2: Hazard identifications

2.1 Classification of the substance or mixture

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

2.2 Label elements

Signal word: Not applicable
Hazard statements: None
Symbols/Pictograms: None
Precautionary statements - prevention: Wash hands thoroughly after handling
Precautionary statements - response: IF exposed concerned: Get medical advice/attention
Precautionary statements - storage: None
Precautionary statements - disposal: None

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Hazards not otherwise classified (HNOC): None

2.4 Other information

Other hazards: None

Section 3: Composition/information on ingredients

3.1 Substances

Chemical name:	Beadlite™ Rapid Colorimetric Thiol Quantitation Kit for Nanoparticles
CAS No.:	
Molecular weight:	
Formula:	

Section 4: First aid measures

4.1 First-aid measures

General advice:	If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on the skin, or on clothing.
Eye contact:	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
Skin contact:	Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water. Immediate medical attention is not required.
Inhalation:	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use a barrier to give mouth-to-mouth resuscitation. Artificial respiration and/or oxygen may be necessary. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.
Ingestion:	Do NOT induce vomiting. Rinse/clean mouth with water and drink plenty of water afterward. Never give anything by mouth to an unconscious person. Consult a physician.
Self-protection of the first aider:	Use personal protective equipment.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms:	No information available.
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4.3 Indication of any immediate medical attention and special treatment needed

Note to physicians:	Treat symptomatically.
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Section 5: Firefighting measures

5.1 Suitable extinguishing media

Suitable extinguishing media:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media:	No information available.

5.2 Specific hazards arising from the chemical

Specific hazards arising from the chemical:	In the event of a fire and/or explosion, do not breathe fumes. May cause sensitization by inhalation and skin contact. Thermal decomposition can lead to the release of irritating and toxic gases and vapors.
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Hazardous combustion products: Carbon oxides, sulfur oxides

5.3 Explosion data

Sensitivity to mechanical impact: No information available.

Sensitivity to static discharge: No information available.

5.4 Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures

Personal precautions: Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

6.2 Environmental precautions

Environmental precautions: Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

6.3 Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Cover powder spill with a plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up: Use personal protective equipment as required. Cover powder spill with a plastic sheet or tarp to minimize spreading and keep the powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surfaces thoroughly. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Take precautionary measures against static discharges.

Section 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling: Avoid contact with skin, eyes, or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions: Keep the container tightly closed in a dry and well-ventilated place. Recommended storage temperature is <-15°C. Minimize light exposure.

Incompatible materials: None known based on information supplied.

Section 8: Experimental controls/personal protection

8.1 Control parameters

Exposure guidelines:	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.
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8.2 Appropriate engineering controls

Engineering controls:	Showers, eyewash stations, ventilation systems
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8.3 Individual protection measures, such as personal protective equipment

Eye/face protection:	Tight sealing safety goggles. Face protection shield.
Skin and body protection:	Wear protective gloves and protective clothing.
Respiratory protection:	If exposure limits are exceeded, or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General hygiene considerations:	When using, do not eat, drink or smoke. Regular cleaning of equipment, work area, and clothing is recommended. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling. Keep away from food, drink, and animal feeding stuff.

Section 9: Physical and chemical properties

Physical state:	Solid
Solubility in water:	Moderate
Appearance:	No information available
Odor/odor threshold:	No information available
pH:	No information available
Melting point/freezing point:	No information available
Boiling point:	No information available
Flashpoint:	No information available
Liquid density:	No information available
Evaporation rate:	No information available
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure:	No information available
Vapor density:	No information available
Specific gravity:	No information available
Water solubility:	No information available
Solubility in other solvents:	No information available
Partition coefficient:	No information available
Autoignition temperature:	No information available
Decomposition temperature:	No information available
Viscosity:	No information available
Explosive properties:	No information available
Oxidizing properties:	No information available

Section 10: Stability and reactivity

Reactivity:	No data available
Chemical stability:	May form explosive peroxides
Possibility of hazardous reactions:	None under normal processing
Hazardous polymerization:	No information available
Conditions to avoid:	Extremes of temperatures and direct sunlight
Incompatible materials:	Strong oxidizing agents
Hazardous decomposition products:	Carbon oxides

Section 11: Toxicological information

11.1 Information on likely routes of exposure

Inhalation:	No data available
Eye contact:	No data available
Skin contact:	No data available
Ingestion:	No data available

11.2 Information on toxicological effects

Symptoms:	No information available
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11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity:	Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.
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11.4 Numerical measures of toxicity - product information

Unknown acute toxicity:	No information available
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Section 12: Ecological information

Ecotoxicity:	May cause long-lasting harmful effects to aquatic life.
Persistence and degradability:	No information available
Bioaccumulation:	No information available
Mobility:	No information available

Section 13: Disposal consideration

Disposal of wastes:	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging:	Do not reuse container
Other information:	Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: Transport information

DOT:	Not regulated
IMDG:	Not regulated
IATA:	Not regulated

Section 15: Regulatory information

15.1 International Inventories

US Toxic Substances Control Act (TSCA):	Not listed
Canada (DSL/NDSL):	Not listed
Europe (EINECS/ELINCS/NLP):	Not listed
Australia (AICS):	Not listed
South Korea (KECL):	Not listed
China (IECSC):	Not listed
Japan (ENCS):	Not listed
Phillipines (PICCS):	Not listed

15.2 US Federal Regulations

SARA 313:	Not listed
SARA 311/312 components:	Not listed
CWA (Clean Water Act):	This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR122.21 and 40CFR 122.42).

15.3 US State Regulations

California Proposition 65:	Not listed
Massachusetts-RTK:	Not listed
New Jersey-RTK:	Not listed
Pennsylvania-RTK:	Not listed
U.S. State Right-To-Know Regulations:	This product does not contain any substances regulated by state right-to-know regulations.

Section 16: Other information

16.1 HMIS

Health hazards:	-
Flammability:	-
Reactivity:	-
Personal protection:	-

16.2 NFPA

Health hazards:	-
Flammability:	-
Stability:	-
Physical and chemical properties:	-

16.3 Further information

This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. Users should make independent decisions regarding the completeness of the information based on all sources available. AAT Bioquest shall not be held liable for any damage resulting from handling or from contact with the above product.

Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: Thiolite™ 490
Product number: 5535

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: For research use only. Not intended for diagnostic or therapeutic use.

1.3 Details of the supplier of the datasheet

Company: AAT Bioquest, Inc.
Address: 5775 W Las Positas Blvd, Pleasanton, CA 94588
Telephone: (408)-733-1055
Fax: (408)-733-1304
Email: info@aatbio.com

1.4 Emergency telephone number

Chemtrec (Within USA): 1-(800)-424-9300
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Section 2: Hazard identifications

2.1 Classification of the substance or mixture

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

2.2 Label elements

Signal word: Not applicable
Hazard statements: None
Symbols/Pictograms: None
Precautionary statements - prevention: Wash hands thoroughly after handling
Precautionary statements - response: IF exposed concerned: Get medical advice/attention
Precautionary statements - storage: None
Precautionary statements - disposal: None

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Hazards not otherwise classified (HNOC): None

2.4 Other information

Other hazards: None

Section 3: Composition/information on ingredients

3.1 Substances

Chemical name: Thiolite™ 490
CAS No.:
Molecular weight:
Formula:

Section 4: First aid measures

4.1 First-aid measures

General advice: If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on the skin, or on clothing.

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin contact: Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water. Immediate medical attention is not required.

Inhalation: Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use a barrier to give mouth-to-mouth resuscitation. Artificial respiration and/or oxygen may be necessary. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.

Ingestion: Do NOT induce vomiting. Rinse/clean mouth with water and drink plenty of water afterward. Never give anything by mouth to an unconscious person. Consult a physician.

Self-protection of the first aider: Use personal protective equipment.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Note to physicians: Treat symptomatically.

Section 5: Firefighting measures

5.1 Suitable extinguishing media

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: No information available.

5.2 Specific hazards arising from the chemical

Specific hazards arising from the chemical: In the event of a fire and/or explosion, do not breathe fumes. May cause sensitization by inhalation and skin contact. Thermal decomposition can lead to the release of irritating and toxic gases and vapors.

Hazardous combustion products: Carbon oxides, sulfur oxides

5.3 Explosion data

Sensitivity to mechanical impact: No information available.

Sensitivity to static discharge: No information available.

5.4 Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures

Personal precautions: Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

6.2 Environmental precautions

Environmental precautions: Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

6.3 Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Cover powder spill with a plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up: Use personal protective equipment as required. Cover powder spill with a plastic sheet or tarp to minimize spreading and keep the powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surfaces thoroughly. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Take precautionary measures against static discharges.

Section 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling: Avoid contact with skin, eyes, or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions: Keep the container tightly closed in a dry and well-ventilated place. Recommended storage temperature is <-15°C. Minimize light exposure.

Incompatible materials: None known based on information supplied.

Section 8: Experimental controls/personal protection

8.1 Control parameters

Exposure guidelines:	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.
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8.2 Appropriate engineering controls

Engineering controls:	Showers, eyewash stations, ventilation systems
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8.3 Individual protection measures, such as personal protective equipment

Eye/face protection:	Tight sealing safety goggles. Face protection shield.
Skin and body protection:	Wear protective gloves and protective clothing.
Respiratory protection:	If exposure limits are exceeded, or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General hygiene considerations:	When using, do not eat, drink or smoke. Regular cleaning of equipment, work area, and clothing is recommended. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling. Keep away from food, drink, and animal feeding stuff.

Section 9: Physical and chemical properties

Physical state:	Solid
Solubility in water:	Moderate
Appearance:	No information available
Odor/odor threshold:	No information available
pH:	No information available
Melting point/freezing point:	No information available
Boiling point:	No information available
Flashpoint:	No information available
Liquid density:	No information available
Evaporation rate:	No information available
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure:	No information available
Vapor density:	No information available
Specific gravity:	No information available
Water solubility:	No information available
Solubility in other solvents:	No information available
Partition coefficient:	No information available
Autoignition temperature:	No information available
Decomposition temperature:	No information available
Viscosity:	No information available
Explosive properties:	No information available
Oxidizing properties:	No information available

Section 10: Stability and reactivity

Reactivity:	No data available
Chemical stability:	May form explosive peroxides
Possibility of hazardous reactions:	None under normal processing
Hazardous polymerization:	No information available
Conditions to avoid:	Extremes of temperatures and direct sunlight
Incompatible materials:	Strong oxidizing agents
Hazardous decomposition products:	Carbon oxides

Section 11: Toxicological information

11.1 Information on likely routes of exposure

Inhalation:	No data available
Eye contact:	No data available
Skin contact:	No data available
Ingestion:	No data available

11.2 Information on toxicological effects

Symptoms:	No information available
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11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity:	Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.
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11.4 Numerical measures of toxicity - product information

Unknown acute toxicity:	No information available
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Section 12: Ecological information

Ecotoxicity:	May cause long-lasting harmful effects to aquatic life.
Persistence and degradability:	No information available
Bioaccumulation:	No information available
Mobility:	No information available

Section 13: Disposal consideration

Disposal of wastes:	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging:	Do not reuse container
Other information:	Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: Transport information

DOT:	Not regulated
IMDG:	Not regulated
IATA:	Not regulated

Section 15: Regulatory information

15.1 International Inventories

US Toxic Substances Control Act (TSCA):	Not listed
Canada (DSL/NDSL):	Not listed
Europe (EINECS/ELINCS/NLP):	Not listed
Australia (AICS):	Not listed
South Korea (KECL):	Not listed
China (IECSC):	Not listed
Japan (ENCS):	Not listed
Phillipines (PICCS):	Not listed

15.2 US Federal Regulations

SARA 313:	Not listed
SARA 311/312 components:	Not listed
CWA (Clean Water Act):	This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR122.21 and 40CFR 122.42).

15.3 US State Regulations

California Proposition 65:	Not listed
Massachusetts-RTK:	Not listed
New Jersey-RTK:	Not listed
Pennsylvania-RTK:	Not listed
U.S. State Right-To-Know Regulations:	This product does not contain any substances regulated by state right-to-know regulations.

Section 16: Other information

16.1 HMIS

Health hazards:	-
Flammability:	-
Reactivity:	-
Personal protection:	-

16.2 NFPA

Health hazards:	-
Flammability:	-
Stability:	-
Physical and chemical properties:	-

16.3 Further information

This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. Users should make independent decisions regarding the completeness of the information based on all sources available. AAT Bioquest shall not be held liable for any damage resulting from handling or from contact with the above product.

Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: Assay Buffer
Product number: 5535

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: For research use only. Not intended for diagnostic or therapeutic use.

1.3 Details of the supplier of the datasheet

Company: AAT Bioquest, Inc.
Address: 5775 W Las Positas Blvd, Pleasanton, CA 94588
Telephone: (408)-733-1055
Fax: (408)-733-1304
Email: info@aatbio.com

1.4 Emergency telephone number

Chemtrec (Within USA): 1-(800)-424-9300
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Section 2: Hazard identifications

2.1 Classification of the substance or mixture

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

2.2 Label elements

Signal word: Not applicable
Hazard statements: None
Symbols/Pictograms: None
Precautionary statements - prevention: Wash hands thoroughly after handling
Precautionary statements - response: IF exposed concerned: Get medical advice/attention
Precautionary statements - storage: None
Precautionary statements - disposal: None

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Hazards not otherwise classified (HNOC): None

2.4 Other information

Other hazards: None

Section 3: Composition/information on ingredients

3.1 Substances

Chemical name: Assay Buffer
CAS No.:
Molecular weight:
Formula:

Section 4: First aid measures

4.1 First-aid measures

General advice: If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on the skin, or on clothing.

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin contact: Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water. Immediate medical attention is not required.

Inhalation: Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use a barrier to give mouth-to-mouth resuscitation. Artificial respiration and/or oxygen may be necessary. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.

Ingestion: Do NOT induce vomiting. Rinse/clean mouth with water and drink plenty of water afterward. Never give anything by mouth to an unconscious person. Consult a physician.

Self-protection of the first aider: Use personal protective equipment.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Note to physicians: Treat symptomatically.

Section 5: Firefighting measures

5.1 Suitable extinguishing media

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: No information available.

5.2 Specific hazards arising from the chemical

Specific hazards arising from the chemical: In the event of a fire and/or explosion, do not breathe fumes. May cause sensitization by inhalation and skin contact. Thermal decomposition can lead to the release of irritating and toxic gases and vapors.

Hazardous combustion products: Carbon oxides, sulfur oxides

5.3 Explosion data

Sensitivity to mechanical impact: No information available.

Sensitivity to static discharge: No information available.

5.4 Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

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6.2 Environmental precautions

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Section 7: Handling and storage

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Advice on safe handling: Avoid contact with skin, eyes, or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions: Keep the container tightly closed in a dry and well-ventilated place. Recommended storage temperature is <-15°C.

Incompatible materials: None known based on information supplied.

Section 8: Experimental controls/personal protection

8.1 Control parameters

Exposure guidelines:

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

8.2 Appropriate engineering controls

Engineering controls:

Showers, eyewash stations, ventilation systems

8.3 Individual protection measures, such as personal protective equipment

Eye/face protection:

Tight sealing safety goggles. Face protection shield.

Skin and body protection:

Wear protective gloves and protective clothing.

Respiratory protection:

If exposure limits are exceeded, or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General hygiene considerations:

When using, do not eat, drink or smoke. Regular cleaning of equipment, work area, and clothing is recommended. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling. Keep away from food, drink, and animal feeding stuff.

Section 9: Physical and chemical properties

Physical state:

Liquid

Solubility in water:

High

Appearance:

No information available

Odor/odor threshold:

No information available

pH:

No information available

Melting point/freezing point:

No information available

Boiling point:

No information available

Flashpoint:

No information available

Liquid density:

No information available

Evaporation rate:

No information available

Upper flammability limit:

No information available

Lower flammability limit:

No information available

Vapor pressure:

No information available

Vapor density:

No information available

Specific gravity:

No information available

Water solubility:

No information available

Solubility in other solvents:

No information available

Partition coefficient:

No information available

Autoignition temperature:

No information available

Decomposition temperature:

No information available

Viscosity:

No information available

Explosive properties:

No information available

Oxidizing properties:

No information available

Section 10: Stability and reactivity

Reactivity:	No data available
Chemical stability:	May form explosive peroxides
Possibility of hazardous reactions:	None under normal processing
Hazardous polymerization:	No information available
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Incompatible materials:	Strong oxidizing agents
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Eye contact:	No data available
Skin contact:	No data available
Ingestion:	No data available

11.2 Information on toxicological effects

Symptoms:	No information available
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11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity:	Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.
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11.4 Numerical measures of toxicity - product information

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Section 12: Ecological information

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Mobility:	No information available

Section 13: Disposal consideration

Disposal of wastes:	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging:	Do not reuse container
Other information:	Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: Transport information

DOT:	Not regulated
IMDG:	Not regulated
IATA:	Not regulated

Section 15: Regulatory information

15.1 International Inventories

US Toxic Substances Control Act (TSCA):	Not listed
Canada (DSL/NDSL):	Not listed
Europe (EINECS/ELINCS/NLP):	Not listed
Australia (AICS):	Not listed
South Korea (KECL):	Not listed
China (IECSC):	Not listed
Japan (ENCS):	Not listed
Phillipines (PICCS):	Not listed

15.2 US Federal Regulations

SARA 313:	Not listed
SARA 311/312 components:	Not listed
CWA (Clean Water Act):	This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR122.21 and 40CFR 122.42).

15.3 US State Regulations

California Proposition 65:	Not listed
Massachusetts-RTK:	Not listed
New Jersey-RTK:	Not listed
Pennsylvania-RTK:	Not listed
U.S. State Right-To-Know Regulations:	This product does not contain any substances regulated by state right-to-know regulations.

Section 16: Other information

16.1 HMIS

Health hazards:	-
Flammability:	-
Reactivity:	-
Personal protection:	-

16.2 NFPA

Health hazards:	-
Flammability:	-
Stability:	-
Physical and chemical properties:	-

16.3 Further information

This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. Users should make independent decisions regarding the completeness of the information based on all sources available. AAT Bioquest shall not be held liable for any damage resulting from handling or from contact with the above product.

Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: DMSO
Product number: 5535

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: For research use only. Not intended for diagnostic or therapeutic use.

1.3 Details of the supplier of the datasheet

Company: AAT Bioquest, Inc.
Address: 5775 W Las Positas Blvd, Pleasanton, CA 94588
Telephone: (408)-733-1055
Fax: (408)-733-1304
Email: info@aatbio.com

1.4 Emergency telephone number

Chemtrec (Within USA): 1-(800)-424-9300
Chemtrec (Outside USA): 1-(703)-527-3887

Section 2: Hazard identifications

2.1 Classification of the substance or mixture

Flammable liquids Category 4
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A

2.2 Label elements

Signal word: Warning
Hazard statements: H227 - Combustible liquid
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Symbols/Pictograms:



Precautionary statements - prevention:	<p>Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking.</p> <p>Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.</p> <p>Wash hands... thoroughly after handling.</p> <p>Wash hands... thoroughly after handling. Do not touch eyes.</p>
Precautionary statements - response:	<p>In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.</p> <p>IF ON SKIN: wash with plenty of water.</p> <p>Specific treatment (see on this label).</p> <p>If skin irritation occurs: Get medical help.</p> <p>Take off contaminated clothing and wash it before reuse.</p> <p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.</p> <p>If eye irritation persists: Get medical help.</p>
Precautionary statements - storage:	Store in a well-ventilated place.
Precautionary statements - disposal:	Dispose of contents/container in accordance with local/regional/national/international regulation.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Hazards not otherwise classified (HNOC):	None
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2.4 Other information

Other hazards:	None
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Section 3: Composition/information on ingredients

3.1 Substances

Chemical name:	DMSO
CAS No.:	67-68-5
Molecular weight:	
Formula:	C ₂ H ₆ OS

Section 4: First aid measures

4.1 First-aid measures

General advice:	If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on the skin, or on clothing.
Eye contact:	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
Skin contact:	Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water. Immediate medical attention is not required.

Inhalation:	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use a barrier to give mouth-to-mouth resuscitation. Artificial respiration and/or oxygen may be necessary. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.
Ingestion:	Do NOT induce vomiting. Rinse/clean mouth with water and drink plenty of water afterward. Never give anything by mouth to an unconscious person. Consult a physician.
Self-protection of the first aider:	Use personal protective equipment.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms:	No information available.
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4.3 Indication of any immediate medical attention and special treatment needed

Note to physicians:	Treat symptomatically.
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Section 5: Firefighting measures

5.1 Suitable extinguishing media

Suitable extinguishing media:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Unsuitable extinguishing media:	No information available.
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5.2 Specific hazards arising from the chemical

Specific hazards arising from the chemical:	In the event of a fire and/or explosion, do not breathe fumes. May cause sensitization by inhalation and skin contact. Thermal decomposition can lead to the release of irritating and toxic gases and vapors.
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Hazardous combustion products:	Carbon oxides, sulfur oxides
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5.3 Explosion data

Sensitivity to mechanical impact:	No information available.
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Sensitivity to static discharge:	No information available.
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5.4 Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
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Section 6: Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures

Personal precautions:	Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.
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6.2 Environmental precautions

Environmental precautions:	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.
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6.3 Methods and material for containment and cleaning up

Methods for containment:	Prevent further leakage or spillage if safe to do so. Cover powder spill with a plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.
Methods for cleaning up:	Use personal protective equipment as required. Cover powder spill with a plastic sheet or tarp to minimize spreading and keep the powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surfaces thoroughly. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Take precautionary measures against static discharges.

Section 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling:	Avoid contact with skin, eyes, or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.
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7.2 Conditions for safe storage, including any incompatibilities

Storage conditions:	Keep the container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep in properly labeled containers. May form explosive peroxides. Store under inert gas. Hygroscopic. Recommended storage temperature is < -15 °C.
Incompatible materials:	None known based on information supplied.

Section 8: Experimental controls/personal protection

8.1 Control parameters

Exposure guidelines:	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.
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8.2 Appropriate engineering controls

Engineering controls:	Showers, eyewash stations, ventilation systems
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8.3 Individual protection measures, such as personal protective equipment

Eye/face protection:	Tight sealing safety goggles. Face protection shield.
Skin and body protection:	Wear protective gloves and protective clothing.
Respiratory protection:	If exposure limits are exceeded, or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General hygiene considerations:	When using, do not eat, drink or smoke. Regular cleaning of equipment, work area, and clothing is recommended. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling. Keep away from food, drink, and animal feeding stuff.

Section 9: Physical and chemical properties

Physical state:	Liquid
Solubility in water:	High
Appearance:	No information available
Odor/odor threshold:	Odorless
pH:	8.5 (50/50 in water)
Melting point/freezing point:	18 °C (64 °F)
Boiling point:	189 °C (372 °F)
Flashpoint:	89 °C (192 °F) Closed Cup, 95 °C (203 °F) Open Cup
Liquid density:	1.1 g/mL
Evaporation rate:	No information available
Upper flammability limit:	28.5% (V)
Lower flammability limit:	3.0% - 3.5% (V)
Vapor pressure:	0.55 mbar (0.46 mmHg) at 20 °C (68 °F)
Vapor density:	2.70 - (Air = 1.0)
Specific gravity:	1.1 at 20 °C (68 °F) (water = 1)
Water solubility:	Completely miscible
Solubility in other solvents:	No information available
Partition coefficient:	-2.03 (log Pow)
Autoignition temperature:	300 - 302 °C (572 - 576 °F) at 1,013 hPa
Decomposition temperature:	>190 °C (>374 °F)
Viscosity:	2.0 mPas or cP at 25 °C (77 °F)
Explosive properties:	Product does not present an explosion hazard.
Oxidizing properties:	The substance or mixture is not classified as oxidizing.

Section 10: Stability and reactivity

Reactivity:	Hazardous Polymerization will not occur.
Chemical stability:	The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions:	None under normal processing
Hazardous polymerization:	No information available
Conditions to avoid:	Avoid heat, flames, and sparks. Prolonged heating above 150°C (302°F) can cause rapid, exothermic decomposition.
Incompatible materials:	Organic and inorganic acid chlorides, strong oxidizing agents, alkali metals, hydrobromic acid, acidic solutions of alkali bromides.
Hazardous decomposition products:	Sulfur dioxide, formaldehyde, methyl mercaptan, dimethyl sulfide, dimethyl disulfide, and bis (methylthio) methane.

Section 11: Toxicological information

11.1 Information on likely routes of exposure

Inhalation:	No data available
Eye contact:	No data available
Skin contact:	Acute dermal toxicity (LD50): 40000 mg/kg [Rat].

Ingestion: Acute oral toxicity (LD50): 7920 mg/kg [Mouse].

11.2 Information on toxicological effects

Symptoms: No information available

11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity: Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.

11.4 Numerical measures of toxicity - product information

Unknown acute toxicity: No information available

Section 12: Ecological information

Ecotoxicity:	Toxicity to fish LC50 – Pimephales promelas (Fathead minnow) – 34,000 mg/L-96h
Persistence and degradability:	Result: 31 % - According to the results of tests of biodegradability this product is not readily biodegradable. (OECD Test Guideline 301D)
Bioaccumulation:	No information available
Mobility:	No information available

Section 13: Disposal consideration

Disposal of wastes:	Disposal should be in accordance with applicable regional, national and local laws and regulations. Do not allow product to reach ground water, water course, or sewage system.
Contaminated packaging:	Do not reuse container
Other information:	Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: Transport information

DOT:	Not a DOT controlled material.
IMDG:	Not regulated
IATA:	Not regulated

Section 15: Regulatory information

15.1 International Inventories

US Toxic Substances Control Act (TSCA):	Listed
Canada (DSL/NDSL):	Not listed
Europe (EINECS/ELINCS/NLP):	Not listed
Australia (AICS):	Not listed
South Korea (KECL):	Not listed
China (IECSC):	Not listed
Japan (ENCS):	Not listed
Phillipines (PICCS):	Not listed

15.2 US Federal Regulations

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 components:

Fire Hazard, Chronic Health Hazard

CWA (Clean Water Act):

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR122.21 and 40CFR 122.42).

15.3 US State Regulations

California Proposition 65:

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts-RTK:

No components are subject to the Massachusetts Right to Know Act.

New Jersey-RTK:

Dimethyl sulfoxide

Pennsylvania-RTK:

Dimethyl sulfoxide

U.S. State Right-To-Know Regulations:

This product does not contain any substances regulated by state right-to-know regulations.

Section 16: Other information

16.1 HMIS

Health hazards:	-
Flammability:	2
Reactivity:	-
Personal protection:	-

16.2 NFPA

Health hazards:	-
Flammability:	2
Stability:	-
Physical and chemical properties:	-

16.3 Further information

This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. Users should make independent decisions regarding the completeness of the information based on all sources available. AAT Bioquest shall not be held liable for any damage resulting from handling or from contact with the above product.