AAT Bioquest, Inc.
5775 W Las Positas Blvd, Pleasanton, CA 94588
Tel: 408-733-1055; Fax: 408-733-1304
www.aatbio.com; email: info@aatbio.com

Product Name: ReadiLink™ Rapid mFluor™ Violet 450 Antibody Labeling Kit *Production Scale*

Catalog Number: 5620

Chemical Name	*CAS#*	*EINECS#*	*Appearance*	*Water Solubility*
Component A: mFluor™ Violet 450	N/A	N/A	solid	moderate
Component B: Reaction Buffer	N/A	N/A	Liquid	High
Component C: DMSO	67-68-5	N/A	Liquid	High
Component D: Spin Column	N/A	N/A	Solid	N/A

Safety Data Sheet

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

1.1 Product identifiers

Product name:	ReadiLink™ Rapid mFluor™ Violet 450 Antibody Labeling Kit *Production Scale*
Product number:	5620

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 safety data sheet

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 evaluated; GHS hazards have not been determined.

2.2 Label elements

Signal word:	Not available
Hazard statements:	Not available
Symbols/Pictograms:	Not available
Precautionary statements - prevention:	Not available
Precautionary statements - response:	Not available
Precautionary statements - storage:	Not available
Precautionary statements - disposal:	Not available

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

Hazards not otherwise classified (HNOC):	Not available

2.4 Other information

Other hazards:	Not available

Section 3: Composition/information on ingredients

3.1 Substances

Chemical name:	ReadiLink™ Rapid mFluor™ Violet 450 Antibody Labeling Kit *Production Scale*
CAS number:	Not available
Molecular weight:	Not applicable
Formula:	Not available

Section 4: First aid measures

4.1 First-aid measures

General advice:	If symptoms occur, seek medical advice/attention.
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Skin contact:	Rinse cautiously with water for several minutes. Consult a physician if necessary.
Inhalation:	Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.
Ingestion:	Not expected to present a significant ingestion hazard under anticipated conditions of normal use. Consult a physician if necessary.
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:	No information available.
Hazardous combustion products:	No information available.

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:	Standard procedure for chemical fires.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures

Personal precautions:	Use appropriate personal protective equipment. Ensure adequate ventilation.

6.2 Environmental precautions

Environmental precautions:	Avoid discharge into drains and waterways whenever possible.

6.3 Methods and material for containment and cleaning up

Methods for containment:	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up:	Take up mechanically, placing in appropriate containers for disposal.

Section 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling:	Use personal protective equipment as required. No special handling advices are necessary.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions:	Keep in a properly-labeled container. Keep the container tightly closed in a cool, dry and well-ventilated place.
Incompatible materials:	No information available.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Exposure guidelines:	No information available.

8.2 Appropriate engineering controls

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

8.3 Individual protection measures, such as personal protective equipment

Eye/face protection:	Tight sealing safety goggles.
Skin and body protection:	Wear protective gloves and clothing.
Respiratory protection:	In case of insufficient ventilation wear suitable respiratory equipment.
General hygiene considerations:	When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Keep away from food, drink, and animal feeding stuffs.

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:	None known.
Chemical stability:	Stable under normal conditions.
Possibility of hazardous reactions:	Hazardous reaction has not been reported.
Hazardous polymerization:	No information available.
Conditions to avoid:	No information available.
Incompatible materials:	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products:	No information available.

Section 11: Toxicological information

11.1 Information on likely routes of exposure

Inhalation:	No information available.
Eye contact:	No information available.
Skin contact:	No information available.
Ingestion:	No information available.

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:	No information available.

11.4 Numerical measures of toxicity - product information

Unknown acute toxicity:	No information available.

Section 12: Ecological information

Ecotoxicity:	No information available.
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:	None

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):	No information available.

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:	No information available.

Section 16: Other information

16.1 HMIS

Health hazards:	Not determined
Flammability:	Not determined
Reactivity:	Not determined
Personal protection:	Not determined

16.2 NFPA

Health hazards:	Not determined
Flammability:	Not determined
Stability:	Not determined

Physical and chemical properties:	Not determined

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:	5620

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 safety data sheet

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

2.2 Label elements

Signal word:	Warning
Hazard statements:	H227 - Combustible liquid
Symbols/Pictograms:	Not available
Precautionary statements - prevention:	Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
Precautionary statements - response:	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
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):	Hazards not otherwise classified (HNOC): None identified Hazards classified under paragraph (d)(1)(ii) of 1910.1200

2.4 Other information

Other hazards:	Hazards associated with a change in physical form: DMSO readily penetrates skin and may carry other dissolved chemicals into the body.

Section 3: Composition/information on ingredients

3.1 Substances

Chemical name:	DMSO
CAS number:	67-68-5
Molecular weight:	Not applicable
Formula:	Not available

Section 4: First aid measures

4.1 First-aid measures

General advice:	If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin contact:	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
Inhalation:	Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration.
Ingestion:	Do NOT induce vomiting. Get medical attention.
Self-protection of the first aider:	Use personal protective equipment.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms:	Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

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:	Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.
Unsuitable extinguishing media:	No information available

5.2 Specific hazards arising from the chemical

Specific hazards arising from the chemical:	Combustible material. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous combustion products:	Carbon monoxide (CO). Carbon dioxide (CO2). Sulfur oxides. Sulfides. Formaldehyde.

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. Remove all sources of ignition. Take precautionary measures against static discharges. Ensure adequate ventilation.

6.2 Environmental precautions

Environmental precautions:	Should not be released into the environment. 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:	Keep in suitable, closed containers for disposal.
Methods for cleaning up:	Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

Section 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling:	Wear personal protective equipment/face protection. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions:	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.
Incompatible materials:	Strong oxidizing agents. Strong acids. Strong bases. Alkali metals.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Exposure guidelines:	This product does not contain any hazardous materials with occupational exposure limitsestablished by the region specific regulatory bodies.

8.2 Appropriate engineering controls

Engineering controls:	Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

8.3 Individual protection measures, such as personal protective equipment

Eye/face protection:	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.
Skin and body protection:	Wear appropriate protective gloves and clothing to prevent skin exposure.
Respiratory protection:	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Recommended Filter type: Particle filter.
General hygiene considerations:	Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and chemical properties

Physical state:	Liquid
Solubility in water:	High
Appearance:	No information available.
Odor/odor threshold:	Odorless
pH:	No information available
Melting point/freezing point:	18.4 °C / 65.1 °F
Boiling point:	189 °C / 372.2 °F
Flashpoint:	87 °C / 188.6 °F Method - No information available
Liquid density:	No information available.
Evaporation rate:	No information available
Upper flammability limit:	Upper 42 Vol%
Lower flammability limit:	Lower 2.6 Vol%
Vapor pressure:	0.55 mbar @ 20°C
Vapor density:	2.7 (Air = 1.0)
Specific gravity:	1.1
Water solubility:	Soluble
Solubility in other solvents:	No information available
Partition coefficient:	Dimethyl sulfoxide -1.35
Autoignition temperature:	301 °C / 573.8 °F
Decomposition temperature:	> 190°C
Viscosity:	1.98 mPa.s @ 25°C
Explosive properties:	explosive air/vapour mixtures possible
Oxidizing properties:	No information available.

Section 10: Stability and reactivity

Reactivity:	None known, based on information available
Chemical stability:	Hygroscopic.
Possibility of hazardous reactions:	Thermal decomposition can take place above 189°C / 372°F.
Hazardous polymerization:	Hazardous polymerization does not occur.

Conditions to avoid:	Incompatible products. Excess heat. Exposure to moist air or water. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible materials:	Strong oxidizing agents, Strong acids, Strong bases, Alkali metals
Hazardous decomposition products:	Carbon monoxide (CO), Carbon dioxide (CO2), Sulfur oxides, Sulfides, Formaldehyde

Section 11: Toxicological information

11.1 Information on likely routes of exposure

Inhalation:	May cause irritation of respiratory tract. May be harmful if inhaled.
Eye contact:	May cause irritation.
Skin contact:	May cause irritation. RAPIDLY ABSORBED THROUGH SKIN.
Ingestion:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed. May cause central nervous system effects.

11.2 Information on toxicological effects

Symptoms:	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

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

Chronic toxicity:	Toxicology data for the components: Dimethyl sulfoxide: LD50 Oral LD50 = 28300 mg/kg (Rat); LD50 Dermal LD50 = 40000 mg/kg (Rat); LC50 Inhalation LC50 > 5.33 mg/L (Rat) 4 h. (b) skin corrosion/irritation: Based on available data, the classification criteria are not met. (c) serious eye damage/irritation: Based on available data, the classification criteria are not met. (d) respiratory or skin sensitization: Respiratory Based on available data, the classification criteria are not met; Skin Based on available data, the classification criteria are not met. (e) germ cell mutagenicity: Based on available data, the classification criteria are not met. (f) carcinogenicity: Based on available data, the classification criteria are not met. (g) reproductive toxicity: Based on available data, the classification criteria are not met. (h) STOT-single exposure: Based on available data, the classification criteria are not met. (i) STOT-repeated exposure: Based on available data, the classification criteria are not met; Target Organs: None known. (j) aspiration hazard: Based on available data, the classification criteria are not met. Other Adverse Effects: The toxicological properties have not been fully investigated. Endocrine Disrupting Properties: This product does not contain any known or suspected endocrine disruptors.

11.4 Numerical measures of toxicity - product information

Unknown acute toxicity:	Toxicologically Synergistic Products: No information available

Section 12: Ecological information

Ecotoxicity:	Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants. Do not empty into drains. . Dimethyl sulfoxide: Freshwater Algae EC50 96h 12350 - 25500 mg/L; Freshwater Fish 40 g/L LC50 96 h 33-37 g/L LC50 96 h; Microtox = 16000 mg/L EC50 Pseudomonas putida 16 h = 32 g/L EC50 Tetrahymena pyriformis 24 h = 77 mg/L EC50 Photobacterium phosphoreum 5 min; Water Flea EC50 24h 7000 mg/L
Persistence and degradability:	Persistence is unlikely
Bioaccumulation:	No information available.
Mobility:	. Will likely be mobile in the environment due to its water solubility. Dimethyl sulfoxide log Pow -1.35

Section 13: Disposal consideration

Disposal of wastes:	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
Contaminated packaging:	Do not reuse container.
Other information:	None

Section 14: Transport information

DOT:	COMBUSTIBLE LIQUID, NOT REGULATED FOR TRANSPORT IN THIS QUANTITY According to 49 CFR §173.150(f)(1), this material should reclassified as NA1993, Combustible Liquid, NOS if it is shipped in bulk UN-No NA1993 Proper Shipping Name Combustible liquid, n.o.s. Packing Group III
IMDG:	Not regulated
IATA:	Not regulated

Section 15: Regulatory information

15.1 International Inventories

US Toxic Substances Control Act (TSCA):	Dimethyl sulfoxide 67-68-5 X ACTIVE -. TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT): Not applicable. TSCA 12(b) - Notices of Export: Not applicable
Canada (DSL/NDSL):	Dimethyl sulfoxide 67-68-5 DSL X NDSL -
Europe (EINECS/ELINCS/NLP):	Dimethyl sulfoxide 67-68-5 EINECS 200-664-3
Australia (AICS):	Dimethyl sulfoxide X
South Korea (KECL):	Dimethyl sulfoxide KE-32367
China (IECSC):	Dimethyl sulfoxide X
Japan (ENCS):	Dimethyl sulfoxide X
Phillipines (PICCS):	Dimethyl sulfoxide X

15.2 US Federal Regulations

SARA 313:	Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372
SARA 311/312 components:	Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.
CWA (Clean Water Act):	Not applicable

15.3 US State Regulations

California Proposition 65:	This product does not contain any Proposition 65 chemicals.
Massachusetts-RTK:	Dimethyl sulfoxide Massachusetts -
New Jersey-RTK:	Dimethyl sulfoxide New Jersey X
Pennsylvania-RTK:	Dimethyl sulfoxide Pennsylvania -
U.S. State Right-To-Know Regulations:	Illinois: Dimethyl sulfoxide -. Rhode Island: Dimethyl sulfoxide -. Clean Air Act: Not applicable. OSHA - Occupational Safety and Health Administration: Not applicable. CERCLA: This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material. U.S. Department of Transportation: Reportable Quantity (RQ): N; DOT Marine Pollutant N; DOT Severe Marine Pollutant N. U.S. Department of Homeland Security: This product does not contain any DHS chemicals. Other International Regulations: Mexico - Grade: Slight risk, Grade 1. Authorisation/Restrictions according to EU REACH: Dimethyl sulfoxide 67-68-5 Annex XIV - Annex XVII Use restricted. See entry 75. (see link for restriction details) SVHC -. REACH links: https://echa.europa.eu/substances-restricted-under-reach. Safety, health and environmental regulations/legislation specific for the substance or mixture: Dimethyl sulfoxide 67-68-5 OECD HPV Listed Persistent Organic Pollutant Not applicable Ozone Depletion Potential Not applicable Restriction of Hazardous Substances (RoHS) Not applicable. Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)? Not applicable. Other International Regulations: Dimethyl sulfoxide 67-68-5 Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification Not applicable Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements Not applicable Rotterdam Convention (PIC) Not applicable Basel Convention (Hazardous Waste) Not applicable

Section 16: Other information

16.1 HMIS

Health hazards:	Not determined
Flammability:	Not determined
Reactivity:	Not determined

Personal protection:	Not determined

16.2 NFPA

Health hazards:	Not determined
Flammability:	Not determined
Stability:	Not determined
Physical and chemical properties:	Not determined

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.