SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 **Product identifier**

Trade Name: Anodamine DISP
Alternative Names: Mixture polypeptide-based copolymer in aqueous solution

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

Industrial uses: Scale inhibitor. Additive for cleaning/washing agents and industrial scale inhibition in water treatment

1.3 **Details of the supplier of the safety data sheet**

Supplier

Anodamine Inc

Street address	7800 Bronco Lane
Postcode and post office	Lago Vista, Texas 78645 USA
Telephone	+ 1 (512) 244 2318
Email	info@anodamine.com, webpage: www.anodamine.com

Contact details of person responsible for SDS

Technical Support Services contact (info@anodamine.com)
Telephone: +1 (512) 244-2318

1.4 **Emergency telephone number**

For USA: Chemtrec: 1-800-424-9300
For Canada: CanuTec: 613-996-6666
Email: ers@chemtelinc.com
Hours of operation: 24 hrs
Language of phone service: English

SECTION 2: HAZARDS IDENTIFICATION

2.1 **Classification of the substance or mixture**

GHS-US Classification: Not classified
Additional Information: For full text of Hazard Statements, See Section 16

2.2 **Label elements**

GHS-US labeling:

Hazard Pictogram:	No hazard pictograms required
Signal Word:	No signal word required
Precautionary Statements:	Response: None
Storage:	None
Disposal:	None
Supplemental Hazard Info:	None

There is no need for label elements in accordance with current regulations since this substance has not been classified as hazardous.

2.3 **Other hazards**

The substance does not fulfil the PBT criteria (not PBT) nor the vPvB criteria (not vPvB).

2.4 **Unknown acute toxicity (GHS-US)**

None as per REACH Regulations 2018

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 **Mixtures**

Chemical Characterization: Food grade polypeptide copolymer in aqueous solution. Proprietary blend of food grade amino acids

3.2 **Other information**

No hazardous ingredients present according to REACH and OSHA-GHS 2012.

SECTION 4: FIRST AID MEASURES

4.1 **Description of first aid measures**

Handling and industrial use of this product possesses little to no safety risk to either personnel or the environment.

4.1.2 **Inhalation**
No effects or symptoms are expected when handling the product. If irritation occurs get medical attention. No respiratory PPE is required.

4.1.3 **Skin contact**
No effects or symptoms are expected when handling the product. Remove contaminated clothing and shoes and immediately wash affected area with plenty of soap and rinse area with large amounts of water. Get medical aid if required.

4.1.4 **Eye contact**
Remove any contact lenses and continue flushing eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid if necessary. Do NOT allow victim to rub orkeep eyes closed. Safety glasses should be worn.

4.1.5 **Ingestion**
Do NOT induce vomiting. If victim is conscious and alert, wash out mouth with water, give several glasses of water. Get medical aid immediately if necessary.

4.2 **Most important symptoms and effects, both acute and delayed**
Refer to Section 11 for more information on health effects and symptoms.

SECTION 5: FIRE FIGHTING MEASURES

5.1 **Extinguishing media**
Suitable extinguishing media
Use water fog or spray, dry chemical foam or carbon dioxide.
Unsuitable Extinguishing media
None known

5.2 **Special hazards arising from the substance or mixture**
Under fire conditions it may produce irritating fumes and/or gases if heated to 550°C or above.
Hazardous Combustion Product: Thermal decomposition products may release toxic and /or hazardous fumes or gases including carbon oxides (CO & CO2)

5.3 **Advice for firefighters**
Usual fire protective clothing should be worn.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 **Personal precautions, protective equipment and emergency procedures**
Use of personal protection is always recommended as good chemical handling practice would dictate. Evacuate the spill area safely to permit authorized personnel to handle the spill. Emergency responders must wear the proper personal protective equipment (and have appropriate fire-suppression equipment) suitable for the situation to which they respond.

6.2 **Environmental precautions**
Avoid release to the environment. Collect leaking substance with suitable containers. Do not allow large volume losses to enter into drain or surface waters. Collect contaminated material in containers. Dispose of contaminated material and its container as waste according to local regulations.
Water Spill: The material will not cause any adverse environmental impact if it reaches waterways however avoid release into waterways. The product is considered non-hazardous to aquaticenvironment.
Land spill: None
Air Spill: None known

6.3 **Methods and materials for containment and cleaning up**
Contain large spills with containment walls and transfer the material to appropriate containers for reclamation or disposal. Collect by sweep, scoop or vacuum and remove. Flush spill area with water. The spill area may be slippery. Soak up liquid residue with suitable absorbent such as clay or sawdusts.

6.4 **Reference to other sections**
Refer to Section 13 for disposal consideration

SECTION 7: HANDLING AND STORAGE

7.1 **Precautions for safe handling**
Protective measures:
Avoid unnecessary repeated contact with skin and eyes. Do not open the containers until ready for use. Close the containers properly.

Handle in accordance with good industrial hygiene and safety practices. These practices include using appropriate personal protection, avoiding unnecessary exposure and removal of material from eyes, skin and clothing.
Do not eat, drink or smoke when handling this product.
Observe all recommended safety precautions until container is cleaned, reconditioned or destroyed. The reuse of this material's container for non-industrial purposes is prohibited and any reuse must be inconsideration of the data provided in this material safety data sheet.

Advice on general occupational hygiene:
Keep personal protective equipment in a clean place, away from the work area. Use clean and correctly maintained personal protective equipment. Always wash your hands after handling the product.
Do NOT eat or drink in the workplace.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:
Take all necessary precautions to avoid the accidental release of the product outside due to the rupture of containers or transfer systems. Ensure there is a suitable retention system.
Storage facilities should be dry and clean.

Packing Material:
The product is compatible with most common storage materials. Suitable packing and storage materials include: Original containers, SS containers or metal containers with PVC, PP, PE or GRP lining; PP,PVC or PE containers.
Unsuitable packing and storage material: Avoid contact with aluminium, copper, copper alloys, nickel and zinc.
Requirements for storage rooms and vessels: Storage should be done in original containers. Store the containers in cool and dry place at ambient temperature at temperature > 37 0F (freezing protection) or < 180 0F typically ensure a useable shelf life of 3-5 years. Even after freezing, thawing allows re-use of the product without limitations
Should not store above 180 ^{0}F as product may degrade and may overpressure the container.

Advice on common storage:
No special restriction on storage with other products
Further information on storage conditions: Shelf life: 3-5 years

7.3 Specific end use(s)
Refer section 1.2

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters
No specific occupational exposure limit is known or established on components present in the product.

8.2 Exposure controls

Appropriate engineering controls

Technical protection measures:
No specific additional engineering controls are required. Natural ventilation is acceptable.
Organizational protection measures:
Environmental, health and safety guidelines or written instructions on the standard operating procedure (SOP) are utilized.
Personnel are trained in environment, health and safety issues, i.e. in safe handling of chemicals and good housekeeping.
Good hygiene measures practiced.

8.3 Individual protection measures

Respiratory protection
At handling temperatures, the product displays no vapor, mist or smell, therefore, respiratory protection is not required.

Hand protection
Wear natural rubber or latex gloves. Although this product does not present a skin concern, minimize skin contamination by following good industrial practice.

Eye/face protection
Use safety glasses or chemical goggles. Have eye wash facilities immediately available at any location where eye contact can occur.

Skin protection
Wear suitable protective clothing - acid resistant chemical clothing is not required.

8.4 Environmental exposure controls
Avoid direct discharge into drains

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 **Information on basic physical and chemical properties**

Appearance	liquid
Color	Dark Amber
Odor	Limited Smell
Odor threshold	Not available
pH	8.0 to 11.0 of 1% solution at 25°C
Melting point/freezing point	No data available
Initial boiling point and boiling range	>100°C (Similar to water)
Flash point	250°C
Evaporation rate	Not determined
Flammability (solid, gas)	Non-flammable or combustible
Explosive properties	None
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor pressure	18 mmHg at 25°C
Vapor density	No information available
Specific gravity@25C	1.01
Water solubility	Miscible in water
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	No data available

Explosive properties: There are no chemical groups associated with explosive properties present in this substance.

Oxidizing properties: Substance does not contain functional groups with oxidizing properties.

Volatile content: No data available

9.2 **Other information:** Please refer to the technical datasheet

SECTION 10: STABILITY AND REACTIVITY

10.1 **Reactivity**
None
Hazardous polymerization: None

10.2 **Chemical stability**
Stable under recommended storage and handling conditions.

10.3 **Possibility of hazardous reactions**
Hazardous polymerization is not expected to occur under normal temperatures and pressures.

10.4 **Conditions to avoid**
Avoid contact with aluminium, nickel, zinc, copper, and copper alloys, temperature above 250°C

10.5 **Incompatible materials**
Strong acids and oxidizers.

10.6 **Hazardous decomposition products**
At temperature above 550°C, the product may decompose and release following: small concentrations of carbon oxide fumes CO, Carbon dioxide (CO_2) in presence of oxygen

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 **Information on toxicological effects**

Acute oral toxicity:
Species: rat
Route of administration: oral
LD50: >5000 mg/kg
Not classified for acute oral toxicity as per OSHA-GHS regulation

11.2 **Acute Inhalation toxicity:**
No test data available

11.3 **Acute dermal toxicity:**
Species: rat
Route of administration: Dermal
LD50: >5000 mg/kg
Not classified for acute dermal toxicity as per OSHA-GHS
Regulation

11.4 **Skin Irritation and corrosion:**
Species: Rabbit
Exposure: 4 hour
Result: Irritating

11.5 **Serious eye damage/irritation**:
Species: Rabbit
Result: Irritating
Reversible in 21 days
The product meets the classification criteria as per OSHA-GHS.

11.6 **Sensitization:**
Species: Guinea Pig
Result: Not sensitizing

11.7 **Sub-acute, sub chronic and prolonged toxicity**

Repeated dose toxicity:
No classification regarding repeated dose toxicity is required.

11.8 **Germ cell mutagenicity**
Negative results obtained in Ames, CHO HGPRT forward mutation and micronucleus tests.
Note: The presented data from similar structural analogues

11.9 **Carcinogenicity**:
Not expected to be a carcinogen Reproductive toxicity

11.10 **Reproductive toxicity**:
No classification regarding reproductive toxicity is required.
Route: oral
no adverse effect observed (NOAEL) 1000 mg/kg bw/day (sub-acute; rat [common rodent species])
Route: dermal
no study available.
Route: inhalation
no study available.

11.11 **STOT-single exposure**
No data available

11.12 **STOT-repeated exposure**
No data available

11.13 **Aspiration hazard**
No data available

11.14 **Other information on acute toxicity**
No further information available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 **Toxicity**

Toxicity on Fish:
Species: Pimephales promelas
Duration: 96 h
LC50: >15,056 mg/l

Toxicity on Invertebrates:
Species: Daphnia magna
Duration: 48 h
LC50: >10,000 mg/l

Toxicity to other organisms
No relevant information available.

12.2 **Persistence and degradability**

Biodegradation
This product is not persistent as it removed through precipitation and absorption process.

Test Method	Degree of Removal
OECD 301D (Ready Biodegradability: Closed Bottle Test) 28 d	99%

12.3 **Bio accumulative potential**
Not expected

12.4 **Mobility in soil**
No data available

12.5 **Results of PBT and vPvB assessment**
This substance is neither fulfilling the criteria for persistent, bio accumulative and toxic substances (PBT substances), nor the criteria for very persistent and very bio accumulative substances (vPvB-substances).

12.6 **Other adverse effects**
No further information available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 **Waste treatment methods**
All local and national regulations should be followed. Consult regulatory officials for disposal requirement. For small quantities neutralize with lime or soda ash and flush away with plenty of water. For large quantities send to special waste disposal system and burn in proper incinerator. This product should not be dumped in public storage and sewers / waterways.

13.2 **US EPA RCRA Status**: This material when discarded is not a hazardous waste as that term is defined by the Resource, Conservation, and Recovery Act (RCRA), 40 CFR 261.

13.3 **Disposal considerations**: Incineration; Recycle

13.4 **Waste from residues / unused products**
Where possible re-use and recycling is preferred to final disposal.

SECTION 14: TRANSPORT INFORMATION

14.1 The Product does not meet for classification as dangerous goods according to local or international transport regulations. The product is classified as not dangerous goods.

14.2 **UN number** not applicable.

14.3 **UN proper shipping name** not applicable.

14.4 **Transport hazard class(es)** not applicable.

14.5 **Packing group** not applicable.

14.6 **Environmental hazards**: The substance is not classified as hazardous for the environment.

14.7 **Special precautions for Users:** None

14.8 **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
No data available.

SECTION 15: REGULATORY INFORMATION

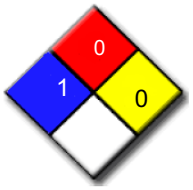
Inventory status:	All components are on the following inventories: US TSCA, Canadian DSL, EU EINECS

US Federal Regulations

US TSCA (12b)	This product does not contain any chemical substances subjected to the US Toxic Substance Control Act (TSCA) 12 (b) export reporting requirements. Product is compliance with TSCA regulation.
SARA Hazard Notification:	
Hazard Categories Under Title III Rules (40 CFR 370)	Not applicable
SARA Section 311/312 Hazard Categories	Not applicable
SARA Title III Section 302 Extremely Hazardous Substances	None
SARA Title III Section 313 Toxic Chemicals	This product does not contain any chemical with known CAS numbers that exceeds the threshold (De Minimis) reporting levels established SARA Title III, Section 313.
US EPA CERCLA Hazardous Substances (40 CFR 302)	None
OSHA Process Safety Management, 29 CFR 1910.119	Not applicable
CERCLA Reportable Quantity	Not applicable
California proposition 65	To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.
Hazardous air pollutants (Clean Air Act)	The product does not contain any hazardous air pollutants as listed under section 112 of the Clean Air Act
Clean water act (CWA)	None listed

The product does not contain any chemicals which are listed as a carcinogen by IARA, NTP & OSHA

NFPA Rating



HMIS	Health: 1 Flammability:0 Physical hazards:0 Special Hazard: NA
HAZCOM Standard Status	This material is not considered to be hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Other International regulations

Canada:

Canadian WHMIS classification	Not regulated or classified
National Pollutants Release Inventory (NPRI)	The product does not contain any components listed on Environment Canada's NPRI
Priority Substances List 1 and Priority Substances List 2 (PSL 1 and PSL2)	The product does not contain any components listed on Environment Canada's PSL1 and PSL2

EU regulations

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Not a hazardous substance or mixture according Regulation (EC) No. 1272/2008
Classification according to Directive	Not classified

67/548/EEC

SVHC or restricted substances list as per REACH regulation	No substances on this list have been intentionally added to the product. Concentration of impurities, if any, is expected to be below 0.1%.
Water Hazard Class (Germany)	WGK: Slightly water endangering

SECTION 16: OTHER INFORMATION

Indication of changes All sections revised to meet OSHA-GHS requirements

16.1 Procedure used to derive the classification according GHS Revision no: 3(adopted guidance by OSHA)

Classification: Not classified

Judgement: On basis of weight of evidence

16.2 **Key or legend to abbreviations and acronyms**

CSR = Chemical Safety Report
DNEL = Derived No Effect Level
LD50 = Median lethal dose
PNEC = Predicted No Effect Concentration
STEL = Short term exposure limit
TLV = Threshold limits
TWA = time weighted average
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods Code
PBT = Persistent Bioaccumulative Toxic
vPvB = very Persistent and very Bioaccumulative
GHS =
OSHA = Occupational Safety and Health Administration
IARC = International Agency for Research
NTP = The National Toxicology program
TSCA = US Toxic Substance Control Act

16.1 **Relevant Risk Phrases (in full)** Not applicable

Relevant H Statements (in full) Not applicable

16.2 **Classification procedure**

In accordance with Regulation (EC) No. 1272/2008 (CLP) this substance has not been classified as hazardous.

DISCLAIMER OF LIABILITY: The information in this SDS was obtained from recent Chemical Safety Report of this substance from REACH registration. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

16.3 **Date** Friday, July 12, 2019