



**Climax Mine**  
Highway 91 - Fremont Pass  
Climax, CO 80429  
Phone (719) 486-7718  
Fax (719) 486-2251

September 28, 2020

Mr. Dustin Czapla  
Environmental Protection Specialist  
Division of Reclamation, Mining and Safety  
Department of Natural Resources  
1313 Sherman St. Room 215  
Denver, Colorado 80203

**RE: Climax Mine, Permit No. M-1977-493, Reagent Testing**

Dear Mr. Czapla

Climax Metallurgy would like to run a short test on five reagents that would be used in the flotation process. The reagents are Modified Starch 3221, Modified Starch 2401, Modified Starch 1311, and Star Flocc from Chemstar Products Company; and POLYFLOAT D2942 from Quadra Chemicals (see attached SDS's). The proposed dosing rate for the Chemstar products will be 20-30g/ton and the Quadra product will be 0.2lb/ton of ore. The test will occur over the next month. All reagents will be stored in a 1kg or 1L container and placed in secondary containment within the Climax metallurgical lab. In the event we see any issues with our process from the reagent testing, we will discontinue the test and dispose of the remaining chemical in accordance with waste regulations. We will update the EPP if we decide to make this change permanent.

Please let me know if you have any concerns. We would like to begin the test as soon as possible.

Sincerely,

A handwritten signature in black ink that reads 'Diana Kelts'.

Diana Kelts  
Environmental Manager

attachments

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND SUPPLIER**

<b>Product name:</b>	StarFloc
<b>Recommended use:</b>	
<b>Company details:</b>	Chemstar Products Company
<b>Address:</b>	3232 East 40th Street, Minneapolis, MN, 55406-3203, US.
<b>Telephone number:</b>	(612) 722-0079
<b>Emergency telephone number:</b>	ChemTrek 800-424-9300
<b>Date of preparation:</b>	2 Jan 2018

**SECTION 2: HAZARDS IDENTIFICATION**

<b>Hazard classifications:</b>	Non-hazardous
<b>Priority and secondary identifiers:</b>	Non-hazardous
<b>Risk and safety phrases:</b>	Respiratory tract irritant Irritant (eyes)

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Chemical characterization:</b>	Modified polysaccharide		
<b>Product components:</b>	Product components		
<b>Name</b>	<b>Cas</b>	<b>Proportion</b>	
Modified Starch	56780-58-6	100%	
None	NR	<1%	

**SECTION 4: FIRST AID MEASURES**

<b>Necessary first aid measures:</b>	<p>Inhalation: Exposure via inhalation is not likely. If inhaled, remove to fresh air.</p> <p>Skin: Wash skin with soap and water.</p> <p>Eyes: Flush eyes with water for 15 minutes, seek medical attention.</p> <p>Ingestion: If swallowed, dilute by drinking large quantities of water, seek medical attention.</p> <p>Chronic exposure: No data</p> <p>Carcinogenicity: Not a likely carcinogen</p>
<b>Workplace facilities:</b>	No special facilities required.
<b>Required instructions:</b>	Observe good work practices to minimize skin contact. Wash hands and exposed skin after use. Do not eat or drink while using.
<b>Notes for medical personnel:</b>	Apply symptomatic therapy.

**SECTION 5: FIRE FIGHTING MEASURES**

<b>Type of hazard:</b>	
<b>Fire hazard properties:</b>	
<b>Regulatory requirements:</b>	
<b>Extinguishing media and methods:</b>	Water, CO2, dry powder or foam

**Hazchem code:**

**Recommended protective clothing:** When fighting a major fire, wear full protective clothing including breathing apparatus.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Emergency procedures:** Sweep up and flush area with water.  
Caution: Wet floors may be slippery when material is present. Avoid production of dust.

## SECTION 7: HANDLING AND STORAGE

**Precautions for safe handling:** Avoid practices which produce dust. Store away from heat, flame and spark source.  
**Regulatory requirements:** N/A  
**Handling practices:** N/A  
**Approved handlers:** Not required  
**Conditions for safe storage:** Store away from heat, flame and spark source  
**Store site requirements:**  
**Packaging:**

## SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

**Workplace exposure standards:**  
**Application in the workplace:** Prevent exposure by using engineering controls, personal protective equipment, and proper work practices. Avoid the creation of dust  
**Exposure standards outside the workplace:** TEL and EELs are not set at this time  
**Engineering controls:** Ventilation as needed to control dust  
**Personal protection:** Dust respirator (NIOSH/MSHA TC-21C-132) as needed.  
Eye protection  
Protective gloves  
**References:** N/A

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Specify product data:** Physical state: Solid  
Solubility in water: appreciable  
pH (4% sol): 5.0 - 8.0  
Density (Lb./Cu. Ft.): 25 - 35  
Appearance: off white powder, slight odor  
**Required specifications:** N/A  
**Further specifications:** N/A  
**Specific advice:**

## SECTION 10: STABILITY AND REACTIVITY

**Stability of the substance:** Stable under normal conditions of use and storage

<b>Conditions to avoid:</b>	Dust-air mixtures may be explosive. The minimum ignition temperature reported through a 200 mesh sieve is 380 degrees C (716 degrees F). The minimum explosive concentration of a dust cloud is 0.04 oz / Cu Ft. Avoid open lights, flames, welding and spark producing sources. Damp or wet conditions will lead to spoilage
<b>Material to avoid:</b>	Strong oxidizing agents
<b>Hazardous decomposition products:</b>	Oxides of carbon
<b>Hazardous polymerization:</b>	Will not occur
<b>Specific data:</b>	Flammable Limits: LEL: N/A UEL: N/A

### SECTION 11: TOXICOLOGICAL INFORMATION

<b>Data and interpretation:</b>	This material is not manufactured to contain any hazardous components. In eyes or respiratory systems it may cause irritation if heavy concentrations are encountered.
<b>Summaries data:</b>	Inhalation: May cause irritation to respiratory system  Skin: None known  Ingestion: Not edible
<b>Format:</b>	

### SECTION 12: ENVIRONMENTAL INFORMATION

<b>Potential environmental interactions:</b>	
<b>Data organisation:</b>	
<b>Environmental risk and safety phrases:</b>	

### SECTION 13: DISPOSAL CONSIDERATIONS

<b>Disposal information:</b>	Dispose of in a manner which is in accordance with state and local regulations
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### SECTION 14: TRANSPORT INFORMATION

<b>Relevant information:</b>	See local and state regulations
<b>Other requirements:</b>	

### SECTION 15: REGULATORY INFORMATION

<b>Regulatory status:</b>	See local and state regulations
<b>HSNO and ACVM controls:</b>	
<b>List exposure limits:</b>	

### SECTION 16: OTHER INFORMATION

<b>Additional information:</b>	none
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## Section 1. Identification

**Product identifier as used on the label** : POLYFLOAT™ D2942

**Product code** : Q10968

**Other means of identification** : Not available.

**Product type** : Liquid.

### Recommended use of the chemical and restrictions on use

#### Identified uses

Industrial applications.

**Supplier's details** : Quadra Chemicals Inc.  
21 Waterway Ave., Suite 200  
The Woodlands, TX  
United States (US) 77380  
1-800-665-6553

**Emergency telephone number (with hours of operation)** : **Transportation Emergency - 24Hrs/Day - In US - Call 1-800-633-8253**

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : SKIN CORROSION - Category 1  
SERIOUS EYE DAMAGE - Category 1

### GHS label elements

#### Hazard pictograms



**Signal word** : Danger

**Hazard statements** : Causes severe skin burns and eye damage.

### Precautionary statements

**Prevention** : Wear protective gloves. Wear eye or face protection. Wear protective clothing. Wash hands thoroughly after handling.

**Response** : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

**Storage** : Store locked up.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

## Section 2. Hazards identification

**Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Substance  
**Other means of identification** : Not available.

Ingredient name	%	CAS number
Hydropolysulfide, carbonothioylbis-, disodium salt	50 - 100	128578-22-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms



## Section 4. First aid measures

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : No specific data.

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

## Section 6. Accidental release measures

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 4 to 32°C (39.2 to 89.6°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Hydropolysulfide, carbonothioylbis-, disodium salt	None.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures



## Section 8. Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Color** : Orange.
- Odor** : Unpleasant.
- Odor threshold** : Not available.
- pH** : 12 to 12.5
- Melting point** : 0°C (32°F)
- Boiling point** : 100°C (212°F)
- Flash point** : Not available.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : <2.3 kPa (<17.5 mm Hg) [room temperature]
- Vapor density** : Not available.
- Relative density** : Not available.
- Density** : 1.04 g/cm<sup>3</sup>
- Solubility** : Soluble in the following materials: cold water.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: No specific data.
<b>Incompatible materials</b>	: oxidizing materials acids alkalis
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Not available.

#### Irritation/Corrosion

Not available.

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

No components known to Quadra, present at or above the cut-off value/concentration limit ( $\geq 0.1\%$ ), are listed as carcinogens by IARC, OSHA or NTP.

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

<b>Eye contact</b>	: Causes serious eye damage.
<b>Inhalation</b>	: No known significant effects or critical hazards.
<b>Skin contact</b>	: Causes severe burns.
<b>Ingestion</b>	: No known significant effects or critical hazards.

## Section 11. Toxicological information

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Eye contact</b>	: Adverse symptoms may include the following: pain watering redness
<b>Inhalation</b>	: No specific data.
<b>Skin contact</b>	: Adverse symptoms may include the following: pain or irritation redness blistering may occur
<b>Ingestion</b>	: Adverse symptoms may include the following: stomach pains

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

<b>General</b>	: No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Teratogenicity</b>	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
<b>Fertility effects</b>	: No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

## Section 12. Ecological information

### Ecotoxicity

Not available.

### Persistence and degradability

Not available.

### Bioaccumulative potential

Not available.

### Mobility in soil

## Section 12. Ecological information

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

### DOT Classification

**UN number** : Not regulated.

**UN proper shipping name** : -

**Transport hazard class(es)** : -

**Packing group** : -

**Environmental hazards** : No.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Additional information** : Not available.

**Transport in bulk according to Annex II of MARPOL and the IBC Code** : Not available.

## Section 15. Regulatory information

**United States inventory (TSCA 8b)** : All components are listed or exempted.

### State regulations

**Massachusetts** : None of the components are listed.

**New York** : None of the components are listed.

**New Jersey** : None of the components are listed.

**Pennsylvania** : None of the components are listed.

### California Prop. 65

None of the components are listed.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

Health	/	3
Flammability		0
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

### Procedure used to derive the classification

Classification	Justification
SKIN CORROSION - Category 1 SERIOUS EYE DAMAGE - Category 1	On basis of test data On basis of test data

### History

**Date of issue/Date of revision** : 8/20/2020

**Date of previous issue** : No previous validation

**Version** : 0.01

Prepared by Regulatory Affairs

**Key to abbreviations** :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- UN = United Nations

Indicates information that has changed from previously issued version.

### Notice to reader

## Section 16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



**SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND SUPPLIER**

<b>Product name:</b>	1311
<b>Recommended use:</b>	
<b>Company details:</b>	Chemstar Products Company
<b>Address:</b>	3232 East 40th Street, Minneapolis, MN, 55406-3203, US.
<b>Telephone number:</b>	(612) 722-0079
<b>Emergency telephone number:</b>	ChemTrek 800-424-9300
<b>Date of preparation:</b>	2 Sep 2020

**SECTION 2: HAZARDS IDENTIFICATION**

<b>Hazard classifications:</b>	Non-hazardous
<b>Priority and secondary identifiers:</b>	Non-hazardous
<b>Risk and safety phrases:</b>	Respiratory tract irritant Irritant (eyes)

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Chemical characterization:</b>	Modified polysaccharide		
<b>Product components:</b>	Product components		
<b>Name</b>	<b>Cas</b>	<b>Proportion</b>	
Modified Starch	9005-25-8	100%	
None	NR	<1%	

**SECTION 4: FIRST AID MEASURES**

<b>Necessary first aid measures:</b>	<p>Inhalation: Exposure via inhalation is not likely. If inhaled, remove to fresh air.</p> <p>Skin: Wash skin with soap and water.</p> <p>Eyes: Flush eyes with water for 15 minutes, seek medical attention.</p> <p>Ingestion: If swallowed, dilute by drinking large quantities of water, seek medical attention.</p> <p>Chronic exposure: No data</p> <p>Carcinogenicity: Not a likely carcinogen</p>
<b>Workplace facilities:</b>	No special facilities required.
<b>Required instructions:</b>	Observe good work practices to minimize skin contact. Wash hands and exposed skin after use. Do not eat or drink while using.
<b>Notes for medical personnel:</b>	Apply symptomatic therapy.

**SECTION 5: FIRE FIGHTING MEASURES**

<b>Type of hazard:</b>	
<b>Fire hazard properties:</b>	
<b>Regulatory requirements:</b>	

**Extinguishing media and methods:** Water, CO<sub>2</sub>, dry powder or foam

**Hazchem code:**

**Recommended protective clothing:**

When fighting a major fire, wear full protective clothing including breathing apparatus.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Emergency procedures:**

Sweep up and flush area with water.

Caution: Wet floors may be slippery when material is present. Avoid production of dust.

## SECTION 7: HANDLING AND STORAGE

**Precautions for safe handling:**

Avoid practices which produce dust. Store away from heat, flame and spark source.

**Regulatory requirements:**

N/A

**Handling practices:**

N/A

**Approved handlers:**

Not required

**Conditions for safe storage:**

Store away from heat, flame and spark source

**Store site requirements:**

**Packaging:**

## SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

**Workplace exposure standards:**

**Application in the workplace:**

Prevent exposure by using engineering controls, personal protective equipment, and proper work practices. Avoid the creation of dust

**Exposure standards outside the workplace:**

TEL and EELs are not set at this time

**Engineering controls:**

Ventilation as needed to control dust

**Personal protection:**

Dust respirator (NIOSH/MSHA TC-21C-132) as needed.  
Eye protection  
Protective gloves

**References:**

N/A

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Specify product data:**

Physical state: Solid  
Solubility in water: complete  
pH (4% sol): 6.0 - 8.0  
Density (Lb./Cu. Ft.): 25 - 40  
Appearance: Off white mini flakes

**Required specifications:**

N/A

**Further specifications:**

N/A

**Specific advice:**

## SECTION 10: STABILITY AND REACTIVITY

**Stability of the substance:**

Stable under normal conditions of use and storage

<b>Conditions to avoid:</b>	Dust-air mixtures may be explosive. The minimum ignition temperature reported through a 200 mesh sieve is 380 degrees C (716 degrees F). The minimum explosive concentration of a duct cloud is 0.04 oz / Cu Ft. Avoid open lights, flames, welding and spark producing sources. Damp or wet conditions will lead to spoilage
<b>Material to avoid:</b>	Strong oxidizing agents
<b>Hazardous decomposition products:</b>	Oxides of carbon
<b>Hazardous polymerization:</b>	Will not occur
<b>Specific data:</b>	Flammable Limits: LEL: N/A UEL: N/A

## SECTION 11: TOXICOLOGICAL INFORMATION

<b>Data and interpretation:</b>	This material is not manufactured to contain any hazardous components. In eyes or respiratory systems it may cause irritation if heavy concentrations are encountered.
<b>Summaries data:</b>	Inhalation: May cause irritation to respiratory system  Skin: None known  Ingestion: Not edible
<b>Format:</b>	

## SECTION 12: ENVIRONMENTAL INFORMATION

<b>Potential environmental interactions:</b>	
<b>Data organisation:</b>	
<b>Environmental risk and safety phrases:</b>	

## SECTION 13: DISPOSAL CONSIDERATIONS

<b>Disposal information:</b>	Dispose of in a manner which is in accordance with state and local regulations
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## SECTION 14: TRANSPORT INFORMATION

<b>Relevant information:</b>	UN-Number: Not Regulated UN proper shipping name: Not Regulated Transport Hazard: Not Regulated  See local and state regulations
<b>Other requirements:</b>	

## SECTION 15: REGULATORY INFORMATION

<b>Regulatory status:</b>	See local and state regulations
<b>HSNO and ACVM controls:</b>	
<b>List exposure limits:</b>	

**SECTION 16: OTHER INFORMATION**

**Additional information:** none

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND SUPPLIER**

<b>Product name:</b>	2401
<b>Recommended use:</b>	
<b>Company details:</b>	Chemstar Products Company
<b>Address:</b>	3232 East 40th Street, Minneapolis, MN, 55406-3203, US.
<b>Telephone number:</b>	(612) 722-0079
<b>Emergency telephone number:</b>	ChemTrek 800-424-9300
<b>Date of preparation:</b>	2 Sep 2020

**SECTION 2: HAZARDS IDENTIFICATION**

<b>Hazard classifications:</b>	Non-hazardous
<b>Priority and secondary identifiers:</b>	Non-hazardous
<b>Risk and safety phrases:</b>	Respiratory tract irritant Irritant (eyes)

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Chemical characterization:</b>	Modified polysaccharide		
<b>Product components:</b>	Product components		
<b>Name</b>	<b>Cas</b>	<b>Proportion</b>	
Modified Starch	9005-25-8	100%	
None	NR	<1%	

**SECTION 4: FIRST AID MEASURES**

<b>Necessary first aid measures:</b>	<p>Inhalation: Exposure via inhalation is not likely. If inhaled, remove to fresh air.</p> <p>Skin: Wash skin with soap and water.</p> <p>Eyes: Flush eyes with water for 15 minutes, seek medical attention.</p> <p>Ingestion: If swallowed, dilute by drinking large quantities of water, seek medical attention.</p> <p>Chronic exposure: No data</p> <p>Carcinogenicity: Not a likely carcinogen</p>
<b>Workplace facilities:</b>	No special facilities required.
<b>Required instructions:</b>	Observe good work practices to minimize skin contact. Wash hands and exposed skin after use. Do not eat or drink while using.
<b>Notes for medical personnel:</b>	Apply symptomatic therapy.

**SECTION 5: FIRE FIGHTING MEASURES**

<b>Type of hazard:</b>	
<b>Fire hazard properties:</b>	
<b>Regulatory requirements:</b>	



**Extinguishing media and methods:** Water, CO<sub>2</sub>, dry powder or foam

**Hazchem code:**

**Recommended protective clothing:**

When fighting a major fire, wear full protective clothing including breathing apparatus.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Emergency procedures:**

Sweep up and flush area with water.

Caution: Wet floors may be slippery when material is present. Avoid production of dust.

## SECTION 7: HANDLING AND STORAGE

**Precautions for safe handling:**

Avoid practices which produce dust. Store away from heat, flame and spark source.

**Regulatory requirements:**

N/A

**Handling practices:**

N/A

**Approved handlers:**

Not required

**Conditions for safe storage:**

Store away from heat, flame and spark source

**Store site requirements:**

**Packaging:**

## SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

**Workplace exposure standards:**

**Application in the workplace:**

Prevent exposure by using engineering controls, personal protective equipment, and proper work practices. Avoid the creation of dust

**Exposure standards outside the workplace:**

TEL and EELs are not set at this time

**Engineering controls:**

Ventilation as needed to control dust

**Personal protection:**

Dust respirator (NIOSH/MSHA TC-21C-132) as needed.  
Eye protection  
Protective gloves

**References:**

N/A

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Specify product data:**

Physical state: Solid  
Solubility in water: complete  
pH (4% sol): 6.0 - 8.0  
Density (Lb./Cu. Ft.): 25 - 40  
Appearance: Off white mini flakes

**Required specifications:**

N/A

**Further specifications:**

N/A

**Specific advice:**

## SECTION 10: STABILITY AND REACTIVITY

**Stability of the substance:**

Stable under normal conditions of use and storage

<b>Conditions to avoid:</b>	Dust-air mixtures may be explosive. The minimum ignition temperature reported through a 200 mesh sieve is 380 degrees C (716 degrees F). The minimum explosive concentration of a duct cloud is 0.04 oz / Cu Ft. Avoid open lights, flames, welding and spark producing sources. Damp or wet conditions will lead to spoilage
<b>Material to avoid:</b>	Strong oxidizing agents
<b>Hazardous decomposition products:</b>	Oxides of carbon
<b>Hazardous polymerization:</b>	Will not occur
<b>Specific data:</b>	Flammable Limits: LEL: N/A UEL: N/A

## SECTION 11: TOXICOLOGICAL INFORMATION

<b>Data and interpretation:</b>	This material is not manufactured to contain any hazardous components. In eyes or respiratory systems it may cause irritation if heavy concentrations are encountered.
<b>Summaries data:</b>	Inhalation: May cause irritation to respiratory system  Skin: None known  Ingestion: Not edible
<b>Format:</b>	

## SECTION 12: ENVIRONMENTAL INFORMATION

<b>Potential environmental interactions:</b>	
<b>Data organisation:</b>	
<b>Environmental risk and safety phrases:</b>	

## SECTION 13: DISPOSAL CONSIDERATIONS

<b>Disposal information:</b>	Dispose of in a manner which is in accordance with state and local regulations
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## SECTION 14: TRANSPORT INFORMATION

<b>Relevant information:</b>	UN-Number: Not Regulated UN proper shipping name: Not Regulated Transport Hazard: Not Regulated  See local and state regulations
<b>Other requirements:</b>	

## SECTION 15: REGULATORY INFORMATION

<b>Regulatory status:</b>	See local and state regulations
<b>HSNO and ACVM controls:</b>	
<b>List exposure limits:</b>	

**SECTION 16: OTHER INFORMATION**

**Additional information:** none

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND SUPPLIER**

<b>Product name:</b>	3221
<b>Recommended use:</b>	
<b>Company details:</b>	Chemstar Products Company
<b>Address:</b>	3232 East 40th Street, Minneapolis, MN, 55406-3203, US.
<b>Telephone number:</b>	(612) 722-0079
<b>Emergency telephone number:</b>	ChemTrek 800-424-9300
<b>Date of preparation:</b>	2 Sep 2020

**SECTION 2: HAZARDS IDENTIFICATION**

<b>Hazard classifications:</b>	Non-hazardous
<b>Priority and secondary identifiers:</b>	Non-hazardous
<b>Risk and safety phrases:</b>	Respiratory tract irritant Irritant (eyes)

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Chemical characterization:</b>	Modified polysaccharide		
<b>Product components:</b>	Product components		
<b>Name</b>	<b>Cas</b>	<b>Proportion</b>	
Modified Starch	9063-38-1	100%	
None	NR	<1%	

**SECTION 4: FIRST AID MEASURES**

<b>Necessary first aid measures:</b>	<p>Inhalation: Exposure via inhalation is not likely. If inhaled, remove to fresh air.</p> <p>Skin: Wash skin with soap and water.</p> <p>Eyes: Flush eyes with water for 15 minutes, seek medical attention.</p> <p>Ingestion: If swallowed, dilute by drinking large quantities of water, seek medical attention.</p> <p>Chronic exposure: No data</p> <p>Carcinogenicity: Not a likely carcinogen</p>
<b>Workplace facilities:</b>	No special facilities required.
<b>Required instructions:</b>	Observe good work practices to minimize skin contact. Wash hands and exposed skin after use. Do not eat or drink while using.
<b>Notes for medical personnel:</b>	Apply symptomatic therapy.

**SECTION 5: FIRE FIGHTING MEASURES**

<b>Type of hazard:</b>	
<b>Fire hazard properties:</b>	
<b>Regulatory requirements:</b>	

**Extinguishing media and methods:** Water, CO<sub>2</sub>, dry powder or foam



**Hazchem code:**

**Recommended protective clothing:** When fighting a major fire, wear full protective clothing including breathing apparatus.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Emergency procedures:** Sweep up and flush area with water.  
Caution: Wet floors may be slippery when material is present. Avoid production of dust.

## SECTION 7: HANDLING AND STORAGE

**Precautions for safe handling:** Avoid practices which produce dust. Store away from heat, flame and spark source.  
**Regulatory requirements:** N/A  
**Handling practices:** N/A  
**Approved handlers:** Not required  
**Conditions for safe storage:** Store away from heat, flame and spark source  
**Store site requirements:**  
**Packaging:**

## SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

**Workplace exposure standards:**  
**Application in the workplace:** Prevent exposure by using engineering controls, personal protective equipment, and proper work practices. Avoid the creation of dust  
**Exposure standards outside the workplace:** TEL and EELs are not set at this time  
**Engineering controls:** Ventilation as needed to control dust  
**Personal protection:** Dust respirator (NIOSH/MSHA TC-21C-132) as needed.  
Eye protection  
Protective gloves  
**References:** N/A

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Specify product data:** Physical state: Solid  
Solubility in water: complete  
pH (4% sol): 6.0 - 8.0  
Density (Lb./Cu. Ft.): 25 - 40  
Appearance: Off white mini flakes  
**Required specifications:** N/A  
**Further specifications:** N/A  
**Specific advice:**

## SECTION 10: STABILITY AND REACTIVITY

**Stability of the substance:** Stable under normal conditions of use and storage

<b>Conditions to avoid:</b>	Dust-air mixtures may be explosive. The minimum ignition temperature reported through a 200 mesh sieve is 380 degrees C (716 degrees F). The minimum explosive concentration of a duct cloud is 0.04 oz / Cu Ft. Avoid open lights, flames, welding and spark producing sources. Damp or wet conditions will lead to spoilage
<b>Material to avoid:</b>	Strong oxidizing agents
<b>Hazardous decomposition products:</b>	Oxides of carbon
<b>Hazardous polymerization:</b>	Will not occur
<b>Specific data:</b>	Flammable Limits: LEL: N/A UEL: N/A

## SECTION 11: TOXICOLOGICAL INFORMATION

<b>Data and interpretation:</b>	This material is not manufactured to contain any hazardous components. In eyes or respiratory systems it may cause irritation if heavy concentrations are encountered.
<b>Summaries data:</b>	Inhalation: May cause irritation to respiratory system  Skin: None known  Ingestion: Not edible
<b>Format:</b>	

## SECTION 12: ENVIRONMENTAL INFORMATION

<b>Potential environmental interactions:</b>	
<b>Data organisation:</b>	
<b>Environmental risk and safety phrases:</b>	

## SECTION 13: DISPOSAL CONSIDERATIONS

<b>Disposal information:</b>	Dispose of in a manner which is in accordance with state and local regulations
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## SECTION 14: TRANSPORT INFORMATION

<b>Relevant information:</b>	UN-Number: Not Regulated UN proper shipping name: Not Regulated Transport Hazard: Not Regulated  See local and state regulations
<b>Other requirements:</b>	

## SECTION 15: REGULATORY INFORMATION

<b>Regulatory status:</b>	See local and state regulations
<b>HSNO and ACVM controls:</b>	
<b>List exposure limits:</b>	

**SECTION 16: OTHER INFORMATION**

**Additional information:** none