



# Safety Data Sheet

Monopole, Inc.

**Product Name:** MONOCHEM 310

**Issue Date:** January 2018

Monopole Inc. encourages and expects you to read and understand the entire SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

## SECTION 1: Identification

**Product Name:** MONOCHEM 310

**Product Code:** 1310

### COMPANY IDENTIFICATION

Monopole, Inc.  
4661 Alger Street  
Los Angeles, CA 90039  
Tel: (818) 500-8585  
Fax: (818) 502-0818

### EMERGENCY TELEPHONE NUMBERS:

Health Emergency: (818) 500-8585  
Poison Center..... : (800) 222-1222  
Chemtrec..... : (800) 424-9300

## SECTION 2: Hazard Identification

### Classification:

Specific Target Organ Toxicity - Repeated Exposure - Category 1  
Respiratory Sensitizer (Solid/Liquid) - Category 1  
Skin Sensitizer - Category 1  
Carcinogenicity - Category 2  
Flammable Liquids Category 3

### Pictograms:



**Signal Word:** Danger

**Hazardous Statements - Physical:** H226 - Flammable liquid and vapor

### Hazardous Statements - Health:

H372 - Causes damage to organs through prolonged or repeated exposure.  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H317 - May cause an allergic skin reaction  
H351 - Suspected of causing cancer.

### Precautionary Statements - General:

P101 - If medical advice is needed, have product container or label at hand.  
P102 - Keep out of reach of children.  
P103 - Read label before use.

**Precautionary Statements - Prevention:**

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

P264 - Wash thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P284 - [In case of inadequate ventilation] wear respiratory protection.

P272 - Contaminated work clothing should not be allowed out of the workplace.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 - Keep container tightly closed.

P240 - Ground/bond container and receiving equipment.

P241 - Use explosion-proof [electrical/ventilating/lighting/...] equipment.

P242 - Use only non-sparking tools.

P243 - Take action to prevent static discharges.

**Precautionary Statements - Response:**

P314 - Get Medical advice/attention if you feel unwell.

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

P302 + P352 - IF ON SKIN: Wash with plenty of water.

P333 + P313 - If skin irritation or a rash occurs: Get medical advice/attention.

P321 - Specific treatment (see section 4 on this SDS).

P362 + P364 - Take off contaminated clothing. And wash it before reuse.

P308 + P313 - IF exposed or concerned: Get medical advice/attention.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P370 + P378 - In case of fire: Use dry chemical, carbon dioxide, foam to extinguish.

For detailed information, see Section-5 (Fire Fighting Measures)

**Precautionary Statements - Storage:**

P405 - Store locked up.

P403 + P235 - Store in a well-ventilated place. Keep cool.

**Precautionary Statements - Disposal:**

P501 - Dispose of contents/ container to an approved waste disposal plant.

**SECTION 3: Composition/Information on Ingredients**

Hazardous Components	% (by weight)	CAS#
Polyurethane Polymer		
Medium Mineral Spirits	8%	0064742-88-7
Silica, Crystalline	6%	0014808-60-7
Titanium Dioxide	1%	0013463-67-7
Toluene-2,6-Diisocyanate		0000091-08-7
2,4-Toluene Diisocyanate		0000584-84-9

## **SECTION 4: First Aid Procedures**

### **Inhalation:**

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

If exposed/feel unwell/concerned: Call a POISON CENTER/doctor.

Eliminate all ignition sources if safe to do so.

### **Skin Contact:**

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Gently blot or brush away excess product. Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before re-use or discard.

IF exposed or concerned: Get medical advice/attention.

### **Eye Contact:**

Avoid direct contact. Wear chemical protective gloves, if necessary.

Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

### **Ingestion:**

Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. If vomiting occurs naturally, lie on your side, in the recovery position.

IF exposed or concerned: Get medical advice/attention.

## **SECTION 5: Fire Fighting Measures**

### **Suitable Extinguishing Media:**

Dry chemical, foam, carbon dioxide is recommended. Water spray is recommended to cool or protect exposed materials or structures.

Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Sand or earth may be used for small fires only.

### **Unsuitable Extinguishing Media:**

If water is used, use very large quantities of cold water. The reaction between water and hot isocyanate may be vigorous.

### **Specific Hazards in Case of Fire:**

Vapors may accumulate and travel to ignition sources distant from the handling site; flash fire can occur.

Excessive pressure or temperature may cause explosive rupture of containers.

Water contamination will produce carbon dioxide. Do not reseal contaminated containers as pressure buildup may rupture them.

**Fire-fighting Procedures:**

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

**Special Protective Actions:**

Wear NIOSH approved self-contained breathing apparatus in positive pressure mode with full-face piece. Boots, gloves (neoprene), goggles, and full protective clothing are also required.

Care should always be exercised in dust/mist areas.

<b>SECTION 6: Accidental Release Measures</b>
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**Emergency Procedure:**

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Do not touch or walk through spilled material.

Isolate hazard area and keep unnecessary people away. Remove all possible sources of ignition in the surrounding area. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

If spilled material is cleaned up using a regulated solvent, the resulting waste mixture may be regulated.

**Recommended Equipment:**

Positive pressure, full-face piece self-contained breathing apparatus(SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

**Personal Precautions:**

Avoid breathing vapors. Avoid contact with skin, eyes or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

**Environmental Precautions:**

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

**Methods and Materials for Containment and Cleaning up:**

Cover container, but do not seal, and remove from work area. Prepare a decontamination solution of 2.0% liquid detergent and 3-8% concentrated ammonium hydroxide in water (5-10% sodium carbonate may be substituted for the ammonium hydroxide). Follow the precautions on the supplier's safety data sheets.

Treat the spill area with the decontamination solution, using about 10 parts of the solution for each part of the spill, and allow it to react for at least 15 minutes. Carbon dioxide will be evolved, leaving insoluble polyureas. Residues from spill cleanup, even when treated as described may continue to be regulated under provisions of RCRA and require storage and disposal as hazardous waste.

Slowly stir the isocyanate waste into the decontamination solution described above. Let stand for 48 hours, allowing the evolved carbon dioxide to vent away, residues may still be subject to RCRA storage and disposal requirements. Dispose off in compliance with all relevant local, state, and federal laws and regulations regarding treatment.

## **SECTION 7: Handling and Storage**

### **General:**

Wash hands after use.

Do not get in eyes, on skin or on clothing.

Do not breathe vapors or mists.

Use good personal hygiene practices.

Eating, drinking and smoking in work areas is prohibited.

Remove contaminated clothing and protective equipment before entering eating areas.

### **Ventilation Requirements:**

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

### **Storage Room Requirements:**

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight, strong oxidizers and any incompatibilities. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage.

Empty container retain residue and may be dangerous.

Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

Ground and bond containers and receiving equipment. Avoid static electricity by grounding.

Do not cut, drill, grind, weld, or perform similar operations on or near containers. Do not pressurize containers to empty them. Ground all structures, transfer containers and equipment to conform to the national electrical code. Use procedures that prevent static electrical sparks. Static electricity may accumulate and create a fire hazard.

## **SECTION 8: Exposure Controls / Personal Protection**

### **Eye Protection:**

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

### **Skin Protection:**

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, and dexterity.

Always seek advice from glove suppliers. Contaminated gloves should be replaced.

Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

Depending on conditions of use, additional protection may be required such as apron, arm covers, or full body suit.

Wash contaminated clothing before re-wearing.

Chemical Name	OSHA TWA (ppm)	OSHA TWA (mg/m3)	OSHA - TABLES- Z1,Z2,Z3	OSHA SKIN designation	NIOSH TWA (ppm)	NIOSH TWA (mg/m3)	NIOSH Carcinogen	ACGIH TWA (ppm)	ACGIH TWA (mg/m3)	ACGIH STEL (ppm)
2,4-TOLUENE DIISOCYANATE	0.02 ceiling	0.14 ceiling	1		a		1	0.005	0.02	0.02
SILICA, CRYSTALLINE	a	[10 mg/m3 percent SiO2+2/250 percent SiO2+5 mppcf]; [30 mg/m3 percent SiO2+2]	1,3;[3];			0.05e	1		0.025(R)	
TITANIUM DIOXIDE		15	1		b		1		10	
TOLUENE-2,6-DIISOCYANATE		5	1	1				0.005		0.02

## SECTION 9: Physical and Chemical Properties

### Physical and Chemical Properties

Density: 10.79 lb/gal

Specific Gravity: 1.29 g/cm<sup>3</sup>

VOC Regulatory: < 50 g/L

Appearance: Viscous Liquid

Odor Threshold: N.A.

Odor Description: Mild Chemical

pH: N.A.

Water Solubility: Reacts with Water

Flammability: N/A

Flash Point: 200 °F

Viscosity: 6,000 ± 1,500 cps

Lower Explosion Level N.A.

Upper Explosion Level N.A.

Vapor Pressure N.A.

Vapor Density Heavier than air

Freezing Point N.A.

Melting Point N.A.

Low Boiling Point 325 °F

High Boiling Point N.A.

Auto Ignition Temp N.A.

Decomposition Pt N.A.

Evaporation Rate Slower than ether

Coefficient Water/Oil N.A.

## SECTION 10: Stability and Reactivity

### Stability:

Material is stable at standard temperature and pressure.

**Conditions to Avoid:**

Heat, high temperature, open flame, sparks, and moisture. Contact with incompatible materials in a closed system will cause liberation of carbon dioxide and buildup of pressure.

**Hazardous Reactions/Polymerization:**

Will not occur under normal conditions but under high temperatures in the presence of alkalis, tertiary amines, and metal compounds will accelerate polymerization. Possible evolution of carbon dioxide gas may rupture closed containers.

**Incompatible Materials:**

This product will react with any material containing active hydrogens, such as water, alcohol, ammonia, amines, alkalis and acids, the reaction with water is slow under 50°C, but is accelerated at higher temperature and in the presence of alkalis, tertiary amines, and metal compounds. Some reactions can be violent. Material can react with strong oxidizing agents.

**Hazardous Decomposition Products:**

Carbon dioxide, carbon monoxide, nitrogen oxides, trace amounts of hydrogen cyanide and unidentified organic compounds may be formed during combustion.

<b>SECTION 11: Toxicological Information</b>
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**Skin Corrosion/Irritation:**

Isocyanates react with skin protein and moisture and can cause irritation. Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and, in some cases, skin sensitization. Individuals who have developed a skin sensitization can develop these symptoms as a result of contact with very small amounts of liquid material or as a result of exposure to vapor.

**Serious Eye Damage/Irritation:**

Liquid, aerosols or vapors are severely irritating and can cause pain, tearing, reddening and swelling. Prolonged vapor contact may cause conjunctivitis. Any level of contact should not be left untreated.

**Respiratory/Skin Sensitization:**

May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause an allergic skin reaction

**Carcinogenicity:**

Suspected of causing cancer.

**Germ Cell Mutagenicity:**

No data available

**Reproductive Toxicity:**

No data available

**Specific Target Organ Toxicity - Single Exposure:**

No data available

**Specific Target Organ Toxicity - Repeated Exposure:**

Causes damage to organs (state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)

**Aspiration Hazard:**

No data available

**Acute Toxicity:**

No data available

## 0000584-84-9 2,4-TOLUENE DIISOCYANATE

LC50 (guinea pig): 13 ppm (3-hour exposure) (11.3 ppm - equivalent 4-hour exposure) (2,4-TDI) (1)

LC50 (rabbit): 1.5 ppm (3-hour exposure) (1.3 ppm - equivalent 4-hour exposure) (2,4-TDI) (1)

LD50 (oral, rat): 5,800 mg/kg (2,4-TDI) (1)

LD50 (dermal, rabbit): 10,000 mg/kg (TDI, unspecified composition) (1)

## 0001333-86-4 CARBON BLACK

LC50 (rat): 6750 mg/m<sup>3</sup> (4-hour exposure); cited as 27000 mg/m<sup>3</sup> (27 mg/L) (1-hour exposure) (3)

**Acute Exposure:**

## 0000091-08-7 TOLUENE-2,6-DIISOCYANATE

It can irritate and burn the skin and eyes. Breathing can irritate the respiratory tract. Inhalation of the vapor can irritate the lungs causing coughing and/or shortness of breath. Exposures can cause chemical bronchitis, pneumonitis or pulmonary edema. Exposure far above the OEL could cause death.

**Chronic Exposure:**

## 0000091-08-7 TOLUENE-2,6-DIISOCYANATE

Toluene-2,6,-diisocyanate may cause a skin allergy, and may cause an asthma-like allergy. Repeated or prolonged contact may cause

skin sensitization. Future exposure can cause asthma attacks with shortness of breath, wheezing, cough, and/or chest tightness.

Repeated high exposure may cause memory and concentration problems

## 0000584-84-9 2,4-TOLUENE DIISOCYANATE

Animal tests in rats have shown 2,4-toluene diisocyanate to have moderate to extreme acute toxicity from inhalation exposure and low acute toxicity from oral exposure. Chronic: Inhalation exposure to 2,4-toluene diisocyanate in workers has caused significant decreases in lung function, an asthma-like reaction characterized by wheezing, dyspnea, and bronchial constriction.

## 0014808-60-7 SILICA, CRYSTALLINE

Prolonged inhalation of respirable crystalline silica dust can result in lung disease (i.e. silicosis and/or lung cancer). Symptoms include coughing, shortness of breath, wheezing and reduced pulmonary function.

**Potential Health Effects - Miscellaneous**

## 0000091-08-7 TOLUENE-2,6-DIISOCYANATE

Is an IARC, NTP or OSHA Carcinogen. It has been shown to cause liver cancer in animals. There is no evidence that it affects reproduction.

## 0000584-84-9 2,4-TOLUENE DIISOCYANATE

Is an IARC, NTP or OSHA carcinogen. Exposure can result in itching of the eyes, lacrimation, and irritation of the nose and pharynx. Respiratory problems that include dry cough, chest pain, difficulty in breathing, wheezing dyspnea, and respiratory distress may occur later. Animal studies have reported significantly increased incidences of tumors of the pancreas, liver, and mammary glands from exposure to 2,4-toluene diisocyanate via gavage. Animal studies, via inhalation, did not report an increased incidence of tumors.

## 0013463-67-7 TITANIUM DIOXIDE

Is an IARC, NTP or OSHA carcinogen. In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/m<sup>3</sup> respirable titanium dust. Analysis of the titanium dioxide concentrations in the rat's lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/m<sup>3</sup> level are not relevant to the workplace. Results of a DuPont epidemiology study showed that employees who had been exposed to Titanium Dioxide were at no greater risk of developing lung cancer than were employees who had not been exposed to Titanium dioxide. No pulmonary fibrosis was found in any of the employees and no association was observed between Titanium dioxide exposure and chronic respiratory disease



or x-ray abnormalities. Based on the results of this study DuPont concludes that titanium dioxide will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the workplace.

#### 0014808-60-7 SILICA, CRYSTALLINE

Is an IARC, NTP or OSHA carcinogen. Repeated overexposure to crystalline silica may lead to x-ray changes and chronic lung disease. Inhalation of high dust concentrations may cause: breathing difficulties, lung injury. **WARNING:** This chemical is known to the State of California to cause cancer.

#### 0064742-88-7 MEDIUM MINERAL SPIRITS

Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system, kidneys, liver, respiratory system, skin. This substance may cause damage to any of the following organs/systems: blood, central nervous system, eyes, kidneys, liver, lungs, reproductive system, skin. Laboratory studies with rats have shown that petroleum distillates can cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown a significant increase of kidney damage or an increase in kidney or liver tumors.

## SECTION 12: Ecological Information

### **Toxicity:**

No data available.

### **Persistence and Degradability:**

No data available.

### **Bioaccumulative Potential:**

No data available.

### **Mobility in Soil:**

No data available.

### **Other Adverse Effects:**

No data available.

### **Bio-accumulative Potential:**

0000584-84-9 2,4-TOLUENE DIISOCYANATE  
Not bioaccumulative (Log Pow = 3.74)

### **Mobility in Soil:**

0000584-84-9 2,4-TOLUENE DIISOCYANATE  
Toluene diisocyanates released into the environment will tend to partition into water.

### **Persistence and Degradability:**

0000584-84-9 2,4-TOLUENE DIISOCYANATE  
Not biodegradable.

## SECTION 13: Disposal Information

### **Waste Disposal:**

Under RCRA, it is the responsibility of the user of the product, to determine a the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state, and local laws.

Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes.

#### **SECTION 14: Transportation Information**

**DOT Proper Shipping Name:** Not regulated.

**IATA Proper Shipping Name:** Not regulated.

**IMO Proper Shipping Name:** Not regulated.

#### **SECTION 15: Regulatory Information**

**Toxic Substance Control Act:** Listed on the TSCA inventory.

**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):** This product contains chemicals known to the state of California that cause cancer, birth defects, or other reproductive harm.

**U.S. EPA CERCLA Hazardous Substances (40 CFR 302) Components:** None.

**SARA Section 311/312 Hazard Categories:** Acute & Chronic Health Hazard

#### **SECTION 16: Other Information**

**USER'S RESPONSIBILITY:** A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions, in addition to those described herein, are required. Any health hazard and safety information herein should be passed on to your customers or employees, as the case may be.

**DISCLAIMER:** To the best of our knowledge, the information contained herein is accurate, but no representation, guarantee or warranty, expressed or implied, is made as to the accuracy, reliability or completeness of the information. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Monopole Inc. urges persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.