

## SAFETY DATA SHEET

Preparation Date: 04/27/2015

Revision date 03/12/2019

Revision Number: G2

### 1. IDENTIFICATION

#### Product identifier

**Product code:** A1383  
**Product Name:** AZATHIOPRINE, USP

#### Other means of identification

**Synonyms:** 1H-Purine,6-((1-methyl-4-nitro-1H-imidazol-5-yl)thio)-  
 ((1-Methyl-4-nitro-1H-imidazol-5-yl)thio)-1H-purine  
 (Methyl-p-nitro-5-imidazolyl)-thiopurine  
 (1'-Methyl-4'-nitro-5'-imidazolyl)-mercaptapurine

**CAS #:** 446-86-6  
**RTECS #** UO8925000  
**CI#:** Not available

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

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>  
**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Tom Tyner (USA - West Coast)  
**Contact Person:** Ibad Tirmiz (USA - East Coast)

### 2. HAZARDS IDENTIFICATION

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1B
Carcinogenicity	Category 1A
Reproductive toxicity	Category 2

#### Label elements

**Danger**

**Hazard statements**  
 Harmful if swallowed  
 Causes serious eye irritation

May cause an allergic skin reaction  
May cause cancer  
Suspected of damaging fertility or the unborn child



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

**Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Contaminated work clothing must not be allowed out of the workplace  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

*IF exposed or concerned: Get medical advice/attention*  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
IF ON SKIN: Wash with plenty of water  
If skin irritation or rash occurs: Get medical advice/attention  
Wash contaminated clothing before reuse  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS No	Weight-%
Azathioprine	446-86-6	100

**4. FIRST AID MEASURES**

**First aid measures**

**General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

**Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

**Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention.

**Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**  
Causes serious eye irritation  
Causes eye irritation  
May cause an allergic skin reaction  
Coughing  
Ingestion may cause nausea, vomiting, and diarrhea  
Fever  
tiredness  
Weakness  
Joint pain  
May cause lower back pain or side pain

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:** Treat symptomatically.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:** Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray mist or foam.

**Unsuitable Extinguishing Media:** No information available.

**Specific hazards arising from the chemical**

**Hazardous combustion products** Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>). Sulfur oxides.

**Specific hazards** May be combustible at high temperatures.

**Special Protective Actions for Firefighters**

**Specific Methods:** No information available

**Special Protective Equipment for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:** Ensure adequate ventilation. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up** Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

**Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe dust. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

**Technical Measures/Storage Conditions:**

Sensitive to light. Store in light-resistant containers. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

**Incompatible Materials:**

Alkalis  
Strong oxidizing agents

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### National occupational exposure limits

##### United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Azathioprine	446-86-6	None	None	None	None

##### Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Azathioprine	446-86-6	None	None	None	None

##### Australia and Mexico

Component	CAS No	Australia	Mexico
Azathioprine	446-86-6	None	None

### Appropriate engineering controls

#### Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

<b>Eye protection:</b>	Goggles or Safety glasses with side-shields.
<b>Skin and body protection:</b>	Chemical resistant apron Gloves Long sleeved clothing
<b>Respiratory protection:</b>	Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.
<b>Hygiene measures:</b>	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Solid	<b>Appearance:</b> Powder.	<b>Color:</b> Light yellow.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available.	<b>Formula</b> C9H7N7O2S
<b>Molecular/Formula weight (g/mole):</b> 277.26	<b>Flammability (solid, gas)</b> no data available	<b>Flashpoint (°C/°F):</b> No information available
<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> No information available	<b>Decomposition temperature(°C/°F):</b> 243°C/469.4°F
<b>Boiling point/range(°C/°F):</b> No information available	<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> No information available
<b>Specific gravity:</b> No information available	<b>pH</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b>	

No information available

**Viscosity:**  
No information available

**Miscibility:**  
No information available

**Solubility:**  
Insoluble in cold water

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactive with alkalis  
Reactive with oxidizing agents

### Chemical stability

**Stability:** Sensitive to light. Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials. Exposure to light.

**Incompatible Materials:** Alkalis  
Strong oxidizing agents

**Hazardous decomposition products:** Carbon oxides. Nitrogen oxides (NO<sub>x</sub>). Sulfur oxides.

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Ingestion. Inhalation.

### Acute Toxicity

### Component Information

Azathioprine

CAS No 446-86-6

**LD50/oral/rat** = 400 mg/kg Oral LD50 Rat  
**LD50/oral/mouse** = 1389 mg/kg Oral LD50 Mouse  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = No information available

### Product Information

**LD50/oral/rat** =  
**Value - Acute Tox** = 400 mg/kg

**LD50/oral/mouse =**  
**Value - Acute Tox Oral = 1389 mg/kg**

**LD50/dermal/rabbit**  
**Value - Acute Tox = No information available**

**LD50/dermal/rat**  
**VALUE - Acute Tox Dermal = No information available**

**LC50/inhalation/rat**  
**VALUE-Vapor = No information available**  
**VALUE-Gas = No information available**  
**VALUE-Dust/Mist = No information available**

**LC50/Inhalation/mouse**  
**VALUE-Vapor = No information available**  
**VALUE - Gas = No information available**  
**VALUE - Dust/Mist = No information available**

**Symptoms**

**Skin Contact:** May cause allergic skin reaction.

**Eye Contact:** Causes serious eye irritation.

**Inhalation** Causes upper respiratory tract and mucous membrane irritation. Symptoms may include cough and hoarseness.

**Ingestion** Harmful if swallowed. Can cause gastrointestinal tract disturbances, slightly bitter taste in mouth, nausea, vomiting, hypermotility, and diarrhea. May affect urinary system/kidneys (renal failure, acute tubular necrosis), blood (leukopenia, thrombocytopenia, macrocytic anemia, changes in white blood cell count), cardiovascular system, liver (elevation in liver enzymes), musculoskeletal system. Other symptoms may include fever, chills, painful or difficult urination, unusual tiredness or weakness, joint pain, lower back or side pain, skin rash or red spots on skin, unusual bleeding or bruising, blood in urine or stools, infection, death.

**Aspiration hazard** No information available.

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

**Chronic Toxicity** Skin: Prolonged or repeated exposure may cause allergic reactions (dermatitis or asthma) in certain sensitive individuals if inhaled, ingested or in contact with skin. Ingestion: May affect liver, blood (macrocytic anemia, thrombocytopenia, leukopenia, changes in white blood cell count) and cause bone marrow hypoplasia/depression, immunosuppression (decrease in immune response), cancer, weight loss/anorexia.

**Sensitization:** May cause sensitization by skin contact.

**Mutagenic Effects:** Experiments with bacteria and/or yeast have shown mutagenic effects  
May affect genetic material

**Carcinogenic effects:** May cause cancer.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic	Australia - Prohibited Carcinogenic
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						<b>Substances</b>	<b>Substances</b>
Azathioprine	446-86-6	Group 1 - Carcinogenic - Monograph 100A [2012] Supplement 7 [1987] Monograph 26 [1981]	Not listed	Known Human Carcinogen	Present	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

**Reproductive toxicity**

Suspected of damaging fertility or the unborn child

**Reproductive Effects:**

May cause adverse reproductive effects

**Developmental Effects:**

No information available

**Teratogenic Effects:**

May cause birth defects (teratogenic effects)

**Specific Target Organ Toxicity**

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

No information available.

**Target Organs:**

Bladder. Blood. Bone Marrow. Cardiovascular system. Immune system. Liver.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:**

No data available.

**Persistence and degradability:**

No information available

**Bioaccumulative potential:**

No information available.

**Mobility in soil**

No information available

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Azathioprine	446-86-6	None	None	None	None

**14. TRANSPORT INFORMATION**



**DOT**

<b>UN-No:</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class</b>	No information available
<b>Subsidiary Class</b>	No information available
<b>Packing group:</b>	No information available
<b>Emergency Response Guide Number</b>	No information available
<b>Marine Pollutant</b>	No data available
<b>DOT RQ (lbs):</b>	No information available
<b>Special Provisions</b>	No Information available
<b>Symbol(s):</b>	No information available
<b>Description:</b>	No information available

**TDG (Canada)**

<b>UN-No:</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Packing Group:</b>	No information available
<b>Marine Pollutant</b>	No Information available
<b>Description:</b>	No information available

**ADR**

<b>UN Number</b>	Not regulated
<b>Proper Shipping Name:</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Packing group</b>	No information available
<b>Subsidiary Risk:</b>	No information available

**IMDG**

<b>UN-No:</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class:</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Packing Group:</b>	No information available
<b>Marine Pollutant</b>	No information available

**RID**

<b>UN Number</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Packing group</b>	No information available

**ICAO (air)**

<b>UN-No:</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Packing Group:</b>	No information available

**IATA**

<b>UN Number</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Transport hazard class(es)</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Packing group</b>	No information available

**Precautionary Statements -** No information available  
**Response**  
**Special Provisions** No information available

**15. REGULATORY INFORMATION**

**International Inventories**

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
Azathioprine	446-86-6	Not Listed	Present KE-24461	Not present	Present (9)-1448	Not listed	Present	Present 207-175-4


**U.S. Regulations**

*Azathioprine*


**Massachusetts RTK:** Present  
**Pennsylvania RTK:** Special hazardous substance  
**Pennsylvania RTK - Special Hazardous Substances** Present  
**Minnesota - Hazardous Substance List:** Present  
**New York Release Reporting - List of Hazardous Substances:**  
 1 lb RQ  
**California Directors List of Hazardous Substances:** Present

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

 **WARNING:** This product contains a chemical known to the State of California to cause cancer. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

 **WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Azathioprine	446-86-6	carcinogen	developmental toxicity	Not Listed	Not Listed

**CERCLA/SARA**

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Azathioprine	446-86-6	None	None	None	None	None

**U.S. TSCA**

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Azathioprine	446-86-6	Not Applicable	Not Applicable

**Canada**

**WHMIS 2015 - GHS Classifications**

WHMIS 2015 Hazard Classification Information:

The WHMIS 2015 classification of this product has not been validated or reviewed yet.

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

**DSL/NDSL**

Component	CAS No	Canada (DSL)	Canada (NDSL)
Azathioprine	446-86-6	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Azathioprine	446-86-6	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Azathioprine	446-86-6	Not listed

**EU Classification**

**EU GHS - SV - CLP 1272/2008**

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Azathioprine	446-86-6	

**EU - CLP (1272/2008)**

**R-phrase(s)**

- R22 - Harmful if swallowed
- R45 - May cause cancer
- R43 - May cause sensitization by skin contact

**S -phrase(s)**

- S 2 - Keep out of the reach of children.
- S46 - If swallowed, seek medical advice immediately and show this container or label
- S53 - Avoid exposure - obtain special instructions before use

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Azathioprine	446-86-6		No information	

**The product is classified in accordance with Annex VI to Directive 67/548/EEC**

**Indication of danger:**

Xn - Harmful

**Xn**



**16. OTHER INFORMATION**

Preparation Date: 04/27/2015  
 Revision date: 03/12/2019

Product code: A1383

Product name: AZATHIOPRINE, USP

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**Prepared by:**

Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**