

# Safety Data Sheet

## ADEPT®

Version 1.8      Revision Date: 05/01/2015      MSDS Number: 400000004078      Country: US  
Language: EN

---

### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ADEPT®  
Product code : 400000004078

#### Manufacturer or supplier's details

Company name of supplier : MacDermid Agricultural Solutions, Inc  
Address : 245 Freight St  
Waterbury, CT United States of America 06702  
Telephone : (800) 423-8569

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

Recommended use : Insect Growth Regulator  
Restrictions on use : Agriculture, For professional users only.

---

### SECTION 2. HAZARDS IDENTIFICATION

#### Emergency Overview

<b>DANGER!</b>	
Appearance	powder
Colour	white, to, yellow
Odour	very faint
Hazard Summary	Causes eye irritation. Harmful if inhaled. May cause cancer. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Very toxic to aquatic life with long lasting effects.

**OSHA Regulatory status** : This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

#### GHS Classification

Acute toxicity (Inhalation) : Category 4  
Eye irritation : Category 2B  
Carcinogenicity : Category 1A  
Acute aquatic toxicity : Category 1

---

# Safety Data Sheet

## ADEPT®

Version 1.8      Revision Date: 05/01/2015      MSDS Number: 400000004078      Country: US  
Language: EN

---

Chronic aquatic toxicity : Category 1

### GHS Label element

Hazard pictograms :



Signal word : Danger

Hazard statements : H320 Causes eye irritation.  
H332 Harmful if inhaled.  
H350 May cause cancer.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P281 Use personal protective equipment as required.  
**Response:**  
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P391 Collect spillage.  
**Storage:**  
P405 Store locked up.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Potential Health Effects

Inhalation : Harmful if inhaled.  
Occupational health effects due to inhalation of mineral dusts incorporating crystalline silica (quartz, cristobalite, tridymite), crystalline silicates (kaolin, talc) graphite or coal.

Skin : Contact with dust can cause mechanical irritation or drying of the skin.

# Safety Data Sheet

## ADEPT®

Version 1.8      Revision Date: 05/01/2015      MSDS Number: 400000004078      Country: US  
Language: EN

Eyes : Causes eye irritation.  
Dust contact with the eyes can lead to mechanical irritation.

Chronic Exposure : Cancer

Aggravated Medical Condition : None known.

Symptoms of Overexposure : irritant effects

### Carcinogenicity:

**IARC** Group 1: Carcinogenic to humans

kaolin 1332-58-7

**OSHA** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP** Known to be human carcinogen

kaolin 1332-58-7

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Hazardous components

Chemical Name	CAS-No.	Concentration (%)
kaolin	1332-58-7	>= 50 - < 70
N-[[[4-chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide	35367-38-5	>= 20 - < 30
sodium diisopropyl naphthalenesulphonate	1322-93-6	>= 1 - < 5
Sulfuric acid, mono-C10-16-alkyl esters, sodium salts	68585-47-7	>= 1 - < 5
silicon dioxide	7631-86-9	>= 1 - < 5

## SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.  
If breathing is labored, administer oxygen.  
If breathing has stopped, apply artificial respiration.  
Obtain medical attention for any breathing difficulties.

In case of skin contact : Remove contaminated clothing and shoes.  
Wash off with warm water and soap.  
If symptoms persist, call a physician.  
Wash contaminated clothing before re-use.

In case of eye contact : Immediately flush eye(s) with plenty of water.

# Safety Data Sheet

## ADEPT®

Version 1.8      Revision Date: 05/01/2015      MSDS Number: 400000004078      Country: US  
Language: EN

---

If symptoms persist, call a physician.

If swallowed : Do NOT induce vomiting.  
Call a physician or poison control centre immediately.  
Have person sip a glass of water if able to swallow.  
Never give anything by mouth to an unconscious person.

Notes to physician : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

---

### SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)  
Dry powder  
Foam  
- water fog

Unsuitable extinguishing media : Water spray

Further information : Fight fire with normal precautions from a reasonable distance.  
Keep away from fire, sparks and heated surfaces.  
Use water spray to cool unopened containers.  
Do not discharge extinguishing waters into streams, rivers and lakes.

Special protective equipment for firefighters : Body covering protective clothing, full "turn-out" gear.  
Self-contained breathing apparatus (EN 133)

---

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Evacuate unnecessary personnel.  
Wear suitable protective clothing, gloves and eye/face protection.  
Ventilate the area.

Environmental precautions : Highly toxic to aquatic life.  
Prevent leaks and prevent soil / water pollution caused by leaks.

Methods and materials for containment and cleaning up : Avoid dust formation.  
Clean up promptly by scoop or vacuum.  
Do not create a powder cloud by using a brush or compressed air.  
Shovel into suitable container for disposal.  
Do not flush into surface water or sanitary sewer system.

---

### SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Wear suitable protective equipment.  
Handle in accordance with good industrial hygiene and safety practice.  
Do not puncture.  
Avoid dust formation.

---

# Safety Data Sheet

## ADEPT®

Version  
1.8

Revision Date:  
05/01/2015

MSDS Number:  
400000004078

Country: US  
Language: EN

Provide for appropriate exhaust ventilation and dust collection at machinery.  
Use only with adequate ventilation.  
Avoid inhalation, ingestion and contact with skin and eyes.  
Do not eat, drink or smoke when using this product.  
Keep container closed when not in use.

Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.  
Keep only in the original container.  
Post as a pesticide storage area.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
kaolin	1332-58-7	TWA (Respirable fraction)	2 mg/m <sup>3</sup>	ACGIH
		TWA (total dust)	15 mg/m <sup>3</sup>	OSHA Z-1
		TWA (respirable fraction)	5 mg/m <sup>3</sup>	OSHA Z-1
		TWA (Respirable)	5 mg/m <sup>3</sup>	NIOSH REL
		TWA (total)	10 mg/m <sup>3</sup>	NIOSH REL
		TWA (Total dust)	10 mg/m <sup>3</sup>	OSHA P0
		TWA (respirable dust fraction)	5 mg/m <sup>3</sup>	OSHA P0
silicon dioxide	7631-86-9	TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA Z-3
		TWA (Dust)	80 mg/m <sup>3</sup> / %SiO <sub>2</sub> (Silica)	OSHA Z-3
		TWA	6 mg/m <sup>3</sup> (Silica)	NIOSH REL

**Engineering measures** : Use mechanical ventilation for general area control.  
Dust must be extracted directly at the point of origin.  
Maintain air concentrations below occupational exposure standards.  
Ensure that extracted air cannot be returned to the workplace through the ventilation system.  
Ensure that eyewash stations and safety showers are close to the workstation location.

#### Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally re-

# Safety Data Sheet

## ADEPT®

Version 1.8      Revision Date: 05/01/2015      MSDS Number: 400000004078      Country: US  
Language: EN

---

quired.  
In the case of dust or aerosol formation use respirator with an approved filter.  
Respirator with a particle filter (EN 143)

### Hand protection

Remarks : Chemical resistant protective gloves

Eye protection : Safety glasses with side-shields

Skin and body protection : Long sleeved clothing  
Remove and wash contaminated clothing before re-use.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.  
Avoid contact with skin, eyes and clothing.  
Do not breathe dust or spray mist.  
Wear suitable gloves and eye/face protection.  
When using do not eat, drink or smoke.  
Wash thoroughly after handling.  
Remove and wash contaminated clothing before re-use.  
Keep working clothes separately.

---

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : powder

Colour : white, to, yellow

Odour : very faint

Odour Threshold : No data available

pH : ca. 8, Concentration: 10 g/l

Melting point/range : No data available

Boiling point/boiling range : Not applicable

Flash point : 110 °C

Evaporation rate : Not applicable

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : Not applicable

Relative vapour density : Not applicable

Relative density : No data available

---

# Safety Data Sheet

## ADEPT®

Version 1.8      Revision Date: 05/01/2015      MSDS Number: 400000004078      Country: US  
Language: EN

---

Density : 2.09 g/cm<sup>3</sup> (25 °C)

Solubility(ies)  
Water solubility : dispersible

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity  
Viscosity, dynamic : Not applicable

Viscosity, kinematic : Not applicable

Self-Accelerating decomposition temperature (SADT) : Method: No information available.

---

### SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions : Hazardous polymerisation does not occur.  
Stable under normal conditions.

Incompatible materials : Strong acids and strong bases  
Oxidizing agents

Hazardous decomposition products : Nitrogen oxides (NO<sub>x</sub>)  
Carbon oxides  
Thermal decomposition can lead to release of irritating gases and vapours.

---

### SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation  
Skin contact

#### Acute toxicity

##### **Product:**

Acute oral toxicity : LD50 (Rat): > 10,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 3.52 mg/l  
Exposure time: 4 h

Acute dermal toxicity : LD50 (Rat): > 20,000 mg/kg

---

# Safety Data Sheet

## ADEPT®

Version 1.8      Revision Date: 05/01/2015      MSDS Number: 400000004078      Country: US  
Language: EN

---

### Components:

#### **kaolin:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

#### **Sulfuric acid, mono-C10-16-alkyl esters, sodium salts:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

#### **silicon dioxide:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
GLP: no

### **Skin corrosion/irritation**

#### Product:

Species: Rabbit  
Assessment: No skin irritation

### Components:

#### **Sulfuric acid, mono-C10-16-alkyl esters, sodium salts:**

Species: Rabbit  
Result: Skin irritation

#### **silicon dioxide:**

Method: OECD Test Guideline 404  
Result: No skin irritation

### **Serious eye damage/eye irritation**

#### Product:

Species: Rabbit  
Result: Mild eye irritation

### Components:

#### **sodium diisopropylnaphthalenesulphonate:**

Result: Irritating to eyes.

#### **Sulfuric acid, mono-C10-16-alkyl esters, sodium salts:**

Species: Rabbit  
Result: Eye irritation

#### **silicon dioxide:**

Result: No eye irritation



# Safety Data Sheet

## ADEPT®

Version 1.8      Revision Date: 05/01/2015      MSDS Number: 400000004078      Country: US  
Language: EN

---

### Respiratory or skin sensitisation

#### Product:

Species: Guinea pig  
Result: Did not cause sensitisation on laboratory animals.

#### Components:

##### **silicon dioxide:**

Test Type: Maximisation Test (GPMT)  
Species: Guinea pig  
Assessment: Did not cause sensitisation on laboratory animals.

### Germ cell mutagenicity

#### Product:

Germ cell mutagenicity - Assessment : negative

#### Components:

##### **silicon dioxide:**

Genotoxicity in vitro : Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Result: negative  
GLP: no

: Test Type: Unscheduled DNA synthesis (UDS)  
Result: negative

Genotoxicity in vivo : Test Type: in vivo assay  
Species: Rat (male)  
Application Route: Oral  
Result: negative  
GLP: no

Test Type: in vivo assay  
Species: Rat (male and female)  
Application Route: Oral  
Result: negative  
GLP: no

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

### Carcinogenicity

#### Product:

Carcinogenicity - Assessment : negative

#### Components:

##### **kaolin:**

# Safety Data Sheet

## ADEPT®

Version 1.8      Revision Date: 05/01/2015      MSDS Number: 400000004078      Country: US  
Language: EN

---

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

**silicon dioxide:**

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

### Reproductive toxicity

**Product:**

Reproductive toxicity - Assessment : negative

**Components:**

**silicon dioxide:**

Reproductive toxicity - Assessment : No toxicity to reproduction  
No effects on or via lactation

### STOT - single exposure

**Components:**

**sodium diisopropylnaphthalenesulphonate:**

Exposure routes: Inhalation  
Target Organs: Respiratory system  
Assessment: May cause respiratory irritation.

**Sulfuric acid, mono-C10-16-alkyl esters, sodium salts:**

Exposure routes: Inhalation  
Assessment: May cause respiratory irritation.

---

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Components:**

**kaolin:**

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 1,100 mg/l  
Exposure time: 48 h

**N-[[[4-chlorophenyl]amino]carbonyl]-2,6-difluorobenzamide:**

M-Factor (Acute aquatic toxicity) : 100

M-Factor (Chronic aquatic toxicity) : 1,000

**silicon dioxide:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 5,000 mg/l  
Exposure time: 96 h

---

# Safety Data Sheet

## ADEPT®

Version 1.8      Revision Date: 05/01/2015      MSDS Number: 400000004078      Country: US  
Language: EN

---

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 5,000 mg/l  
Exposure time: 24 h

Toxicity to algae : EC50 (Algae): 440 mg/l  
Exposure time: 72 h  
Remarks: Information given is based on data obtained from similar substances.

### Persistence and degradability

#### Components:

##### **silicon dioxide:**

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

### Bioaccumulative potential

No data available

### Mobility in soil

No data available

### Other adverse effects

No data available

---

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Pesticide wastes are toxic.  
Dispose of waste product or used containers according to local regulations.  
Do not contaminate ponds, waterways or ditches with chemical or used container.

---

## SECTION 14. TRANSPORT INFORMATION

### International Regulation

#### **IATA-DGR**

UN/ID No. : UN 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., Environmentally hazardous substance, solid, n.o.s. (Diflubenzuron)

Class : 9

Packing group : III

Labels : Miscellaneous

Packing instruction (cargo aircraft) : 956

Packing instruction (passenger aircraft) : 956

---

# Safety Data Sheet

## ADEPT®

Version 1.8      Revision Date: 05/01/2015      MSDS Number: 400000004078      Country: US  
Language: EN

---

### IMDG-Code

UN number : UN 3077  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S.  
(Diflubenzuron)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : no

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### National Regulations

#### 49 CFR

UN/ID/NA number : UN 3077  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S.  
(Diflubenzuron)  
Class : 9  
Packing group : III  
Labels : CLASS 9  
ERG Code : 171  
Marine pollutant : no

---

## SECTION 15. REGULATORY INFORMATION

**OSHA Hazards** : Irritant, Carcinogen

### EPCRA - Emergency Planning and Community Right-to-Know Act

#### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : No SARA Hazards

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

N-[[[4-chloro-phenyl)amino]carbonyl]-2,6-difluorobenzamide	35367-38-5	25 %
--	------------	------

# Safety Data Sheet

## ADEPT®

Version 1.8      Revision Date: 05/01/2015      MSDS Number: 400000004078      Country: US  
Language: EN

---

### California Prop 65

kaolin

WARNING! This product contains a chemical known to the State of California to cause cancer.

1332-58-7

---

### FIFRA Hazard Information:

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The pesticide label also includes other important information, including directions for use.

The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

### CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing.

This pesticide is toxic to aquatic invertebrates. For terrestrial uses, do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift or runoff from treated areas may be hazardous to aquatic invertebrate organisms in neighboring areas. Do not contaminate water when disposing of equipment wastewater or rinsate.

# Safety Data Sheet

## ADEPT®

Version  
1.8

Revision Date:  
05/01/2015

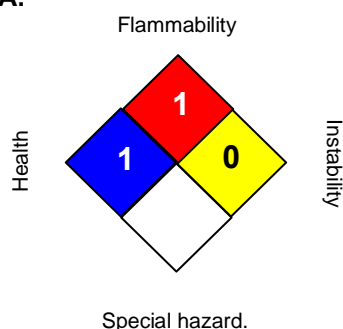
MSDS Number:  
400000004078

Country: US  
Language: EN

### SECTION 16. OTHER INFORMATION

#### Further information

##### NFPA:



##### HMIS III:

<b>HEALTH</b>	<b>1*</b>
<b>FLAMMABILITY</b>	<b>1</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

0 = not significant, 1 = Slight,  
2 = Moderate, 3 = High  
4 = Extreme, \* = Chronic

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / EN

### Carechem24 International Worldwide Coverage

#### Emergency Phone Number

<u>Europe:</u>	All European Countries	+44 (0) 1235 239 670 (NCEC)
<u>Asia Pacific:</u>	East / South East Asia – Regional Number	+65 3158 1074
	Australia	+61 2801 44558
	New Zealand	+64 9929 1483
	China	+86 532 8388 9090
	China Taiwan	+86 10 5100 3039
	Japan	+81 345 789 341
	Indonesia	00780 3011 0293
	Malaysia	+60 3 6207 4347

# Safety Data Sheet

## ADEPT®

Version  
1.8

Revision Date:  
05/01/2015

MSDS Number:  
400000004078

Country: US  
Language: EN

---

	Thailand	001800 1 2066 6751
	Korea	+65 3158 1285 +82 (0)234 798 401
	Vietnam	+65 3158 1255
	India	+65 3158 1198 +91 1166 411 405
	Pakistan	+65 3158 1329
	Philippines	+65 31581203
	Sri Lanka	+65 3158 1195
	Emergency Phone Number	+65 3158 1200
<u>Middle East / Africa:</u>	Arabic speaking countries	+44 (0) 1235 239 671
	South Africa	+27 21 300 2732
	All other countries	+44 (0) 1235 239 670
<u>America</u>	United States of America and Canada	+1866 928 0789 +1 215 207 0061
<u>Latin America:</u>	Brazil	+55 113 711 9144
	Mexico	+52 555 004 8763
	Chile	+56 225 829 336
	All other countries	+44 (0) 1235 239 670