



# Adoption of the GHS and Communication of Pesticide Hazards

# Purpose of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

- (a) To enhance the protection of human health and the environment by providing an internationally comprehensible system for hazard communication**
- (b) To provide a recognized framework for countries without an existing system**
- (c) To reduce the need for testing and evaluation of chemicals; and**
- (d) To facilitate international trade in chemicals whose hazards have been properly assessed and identified on an international basis**

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## OSHA has updated their Hazard Communication Standard (29 CFR 1910.1200) to adopt the GHS.

- All OSHA hazardous chemicals will be classified using the GHS criteria. Environmental hazards are not required or enforceable by OSHA.
- GHS standards for labels will be adopted for chemicals.
- Safety Data Sheets (SDS) will adopt the format, signal word identification, hazard statements, and precautionary statements from GHS.
- Labels and SDSs will include pictograms.
- Language and pictograms on existing chemical products will change before June 1, 2015



# GHS Classification

## Health and Environmental Hazards Defined in GHS





1. Acute toxicity
2. Skin corrosion/irritation
3. Serious eye damage/eye irritation
4. Respiratory or skin sensitization
5. Germ cell mutagenicity
6. Carcinogenicity
7. Reproductive toxicity
8. Specific target organ toxicity-single exposure
9. Specific target organ toxicity-repeated exposure
10. Aspiration hazard
11. Hazardous to the aquatic environment
12. Hazardous to the ozone layer



## Health hazard classification differences

Hazard class	GHS	OPP
Acute toxicity (lethality)	Yes	Yes
Skin corrosion / Irritation	Yes	Yes
Serious eye damage / Irritation	Yes	Yes
Respiratory or skin sensitization	Yes	Skin only
Germ cell mutagenicity	Yes	No
Carcinogenicity	Yes	No
Reproductive toxicity	Yes	No
TOST / single Exposure	Yes	Methanol, Others?
TOST / repeat exposure	Yes	No
Aquatic toxicity	Yes	Yes -acute only




# Signal Word, Graphic, and Hazard Statement Inconsistency

OPP Criteria, Signal Words, Symbol, and Hazard Statements	GHS Criteria, Signal Words, Pictograms and Hazard Statements
<p><b>ACUTE ORAL TOXICITY:</b></p> <p><u>Category I</u>  <math>LD_{50} &lt; 50 \text{ mg/kg}</math></p> <p>DANGER            Skull and Crossbones            Fatal if swallowed</p> 	<p><b>ACUTE ORAL TOXICITY:</b></p> <p><u>Category 1</u>  <math>LD_{50} \leq 5 \text{ mg/kg}</math>  <i>and</i>  <u>Category 2</u>  <math>LD_{50} &gt; 5 \text{ mg/kg} &lt; 50 \text{ mg/kg}</math></p> <p>DANGER            Skull and Crossbones in diamond            Fatal if swallowed</p> 
<p><u>Category II</u>  <math>LD_{50} &gt; 50 \text{ mg/kg} &lt; 500 \text{ mg/kg}</math></p> <p>WARNING            No symbol            May be fatal if swallowed</p>	<p><u>Category 3</u>  <math>LD_{50} &gt; 50 \text{ mg/kg} &lt; 300 \text{ mg/kg}</math></p> <p>DANGER            Skull and Crossbones in diamond            Toxic if swallowed</p> 
<p><u>Category III</u>  <math>LD_{50} &gt; 500 \text{ mg/kg} \leq 5000 \text{ mg/kg}</math></p> <p>CAUTION            No symbol            Harmful if swallowed</p>	<p><u>Category 4</u>  <math>LD_{50} &gt; 300 \text{ mg/kg} &lt; 2000 \text{ mg/kg}</math></p> <p>WARNING            Exclamation point in diamond            Harmful if swallowed</p> 
<p><u>Category IV</u>  <math>LD_{50} &gt; 5000 \text{ mg/kg}</math></p> <p>CAUTION or no signal word            No symbol            No hazard statement required; registrant may choose to use Category III statement</p>	<p><u>Category 5</u>  <math>LD_{50} &gt; 2000 \text{ mg/kg} \leq 5000 \text{ mg/kg}</math> (See Note (e) to GHS Table 3.1.1.)</p> <p>WARNING            No symbol            May be harmful if swallowed</p> <p>[<math>LD_{50} &gt; 5000 \text{ mg/kg}</math>            not classified; no specified label elements]</p>



# GHS Classification

## Physical Hazards Defined in GHS

- |  |  |  |
|--|--|--|
| 1. Explosives                            |   | 9. Pyrophoric liquids  |
| 2. Flammable gases                       |  | 10. Pyrophoric solids  |
| 3. Aerosols                              |  | 11. Self-heating substances and mixtures                                       |
| 4. Oxidizing gases                       |   | 12. Substances and mixtures which, in contact with water, emit flammable gases |
| 5. Gases under pressure                  |  | 13. Oxidizing liquids  |
| 6. Flammable liquids                     |  | 14. Oxidizing solids   |
| 7. Flammable solids                      |  | 15. Organic peroxides  |
| 8. Self-reactive substances and mixtures |  | 16. Corrosive to metals  |
|  |  |  |


OPP does not specify classification criteria, symbols, signal words or label statements for physical hazards other than flammability



# OSHA Hazard Communication Labelling

Consistent with earlier HazCom standards, packages labelled in compliance with EPA FIFRA requirements are excepted from OSHA HazCom labeling requirements.

GROUP MS P1 FUNGICIDES PULL HERE TO OPEN



**syngenta.**

## Flowable Fungicide

For control of turf diseases: sod farms; turf on golf courses, professional and collegiate athletic fields; and lawns around commercial and industrial buildings.

**Active Ingredients:**

Chlorothalonil (tetrachloroisophthalonitrile)*	53.94%
Acibenzolar-S-methyl; Benzo(1,2,3)thiadiazole-7-carbithioic acid-S-methyl ester**	0.11%
Other Ingredients:	45.95%
<b>Total:</b>	<b>100.00%</b>

\*CAS No. 1897-45-6  
\*\*CAS No. 135158-54-2

Contains: 6.1 pounds chlorothalonil per gallon  
0.012 pounds acibenzolar-S-methyl per gallon

**KEEP OUT OF REACH OF CHILDREN.  
WARNING/AVISO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)  
See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-1364  
EPA Est. 50534-TX-001

**2.5 gallons**  
Net Contents

SCP 1364A-L1 0411 343162

**Bravo**

**Weather Stick**

EPA Reg. No. 50534-188-100  
EPA Est. 50534-TX-001

**Agricultural Fungicide**

Active ingredient:  
Chlorothalonil (tetrachloroisophthalonitrile) 54.0%

Other Ingredients including  
Propylene glycol and Silica, amorphous 46.0%

Total 100.0%

Contains 6.0 Pounds Chlorothalonil per Gallon (720 grams per liter)




**Danger**

Toxic if inhaled  
Causes skin irritation  
Causes severe eye irritation  
May cause an allergic skin reaction  
Very toxic to aquatic life with long lasting effects

**KEEP OUT OF REACH OF CHILDREN**  
See additional precautionary statements and directions for use inside this booklet

**2.5 gallons**  
U.S. Standard Measure

SCP 50534-188A-L1A 0303  
118697

**Syngenta**  
Greensboro, N.C.  
1-336-632-6000

**\* Other international regulatory bodies may require the application of GHS labels for import or export pesticide containers.**

# Safety Data Sheets

- The traditional term “Material Safety Data Sheet” is now replaced by “Safety Data Sheet”
- A specific 16-section format is required
- Pictograms are included on the SDS
- New GHS signal words, hazard statements and precautionary statements are used in SDS Section 2
- Signal Word Options – WARNING or DANGER

EPA regards SDSs for pesticides to be labeling when they accompany the pesticide. Inconsistencies in classification, signal words, application of graphics, and precautionary statements may be viewed as misbranding.

\* OPP PR Notice2012-1; April 19, 2012

# Safety Data Sheets

**Information should be presented as follows:**

1. Identification
2. **Hazard(s) identification**
3. Composition/information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls/personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. **Regulatory information**
16. Other information.

## 2. HAZARDS IDENTIFICATION

Classifications:

Skin Corrosion/Irritation: Category 2

Oral: Category 4

Dermal: Category 4

Inhalation: Category 3

Skin Sensitizer: Category 1B

Carcinogenicity: Category 2

Specific Target Organ Toxicity: Repeated Category 2

Specific Target Organ Toxicity: Drowsiness Category 3

Eye Damage/Irritation: Category 2A

GHS classification and  
precautionary statements.

Signal Word (OSHA):

Danger

HCS Signal word.

Hazard Statements:

Harmful if swallowed

Harmful in contact with skin

Causes skin irritation

May cause an allergic skin reaction

Causes serious eye irritation

Toxic if inhaled

May cause respiratory irritation

May cause drowsiness or dizziness

Suspected of causing cancer

May cause damage to organs (blood, liver, lung, kidney, spleen)

Hazard Symbols:



Pictograms that are required

## 15. REGULATORY INFORMATION

### Pesticide Registration:

Standard verbiage for differences with HCS labeling

This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Warning: Causes substantial but temporary eye injury. Harmful if swallowed. May be fatal if inhaled. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

### EPA Registration Number(s):

100-1364

### EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard  
Chronic Health Hazard

Section 313 Toxic Chemicals: Chlorothalonil (53.94%) (CAS No.

EPA FIFRA Label Signal Word found on Pesticide Labels

### California Proposition 65:

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

### CERCLA/SARA 304 Reportable Quantity (RQ):

None

### RCRA Hazardous Waste Classification (40 CFR)

Not Applicable

### TSCA Status:

Exempt from TSCA, subject to FIFRA



In this section, the information will correspond with the Pesticide Label.

## 16. OTHER INFORMATION

### NFPA Hazard Ratings

Health: 2  
Flammability: 1  
Instability: 0

### HMIS Hazard Ratings

Health: 2  
Flammability: 1  
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

Syngenta Hazard Category: C,S

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 5/3/2011

Revision Date: 9/10/2013

Replaces: 6/21/2012

Section(s) Revised: 1, 2, 3, 4, 5, 6, 8, 9, 15