

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : VILLAIN  
Product code : 89168-93-89391

#### 1.2. Recommended use and restrictions on use

#### 1.3. Supplier

INNICTIS® CROP CARE, LLC  
1880 Fall River Drive, Suite 100  
Loveland, CO 80538  
T 855-466-8428

#### 1.4. Emergency telephone number

Emergency number : ChemTrec 1-800-424-9300

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Serious eye damage/eye irritation, Category 1 H318 Causes serious eye damage.  
Skin sensitisation, category 1B H317 May cause an allergic skin reaction.  
Hazardous to the aquatic environment — Acute Hazard, Category 1 H400 Very toxic to aquatic life.

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : H317 - May cause an allergic skin reaction.  
H318 - Causes serious eye damage.  
H400 - Very toxic to aquatic life.

Precautionary statements (GHS US) : P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.  
P272 - Contaminated work clothing must not be allowed out of the workplace.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352 - If on skin: Wash with plenty of water/...  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 - Immediately call a poison center/doctor/...  
P321 - Specific treatment (see supplemental first aid instruction on this label)  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P363 - Wash contaminated clothing before reuse.  
P391 - Collect spillage.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

# VILLAIN

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

| Name        | Product identifier    | %    | GHS-US classification |
|-------------|-----------------------|------|-----------------------|
| metolachlor | (CAS-No.) 51218-45-2  | 36.8 | Not classified        |
| mesotrione  | (CAS-No.) 104206-82-8 | 36.8 | Not classified        |

Full text of hazard classes and H-statements : see section 16

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
- First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

#### 4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after skin contact : May cause an allergic skin reaction.
- Symptoms/effects after eye contact : Serious damage to eyes.

#### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

#### 5.2. Specific hazards arising from the chemical

- Hazardous decomposition products in case of fire : Toxic fumes may be released.

#### 5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

##### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

- For containment : Collect spillage.
- Methods for cleaning up : Take up liquid spill into absorbent material.
- Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

# VILLAIN

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.
- Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a well-ventilated place. Keep cool.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

|                                     |
|-------------------------------------|
| <b>VILLAIN</b>                      |
| No additional information available |
| <b>metolachlor (51218-45-2)</b>     |
| No additional information available |
| <b>mesotrione (104206-82-8)</b>     |
| No additional information available |

#### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

##### Hand protection:

Protective gloves

##### Eye protection:

Safety glasses

##### Skin and body protection:

Wear suitable protective clothing

##### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

##### Personal protective equipment symbol(s):



### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Colour : Commercial substance: yellow to brown
- Odour : mild
- Odour threshold : No data available
- pH : 3.5 – 5
- Melting point : Not applicable
- Freezing point : No data available
- Boiling point : No data available
- Flash point : 200 °F

# VILLAIN

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

|   |                     |
|---|---------------------|
| Relative evaporation rate (butylacetate=1)      | : No data available |
| Flammability (solid, gas)                       | : Not applicable.   |
| Vapour pressure                                 | : No data available |
| Relative vapour density at 20 °C                | : No data available |
| Relative density                                | : 10.19 lb/gal      |
| Solubility                                      | : No data available |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Auto-ignition temperature                       | : No data available |
| Decomposition temperature                       | : No data available |
| Viscosity, kinematic                            | : No data available |
| Viscosity, dynamic                              | : No data available |
| Explosive limits                                | : No data available |
| Explosive properties                            | : No data available |
| Oxidising properties                            | : No data available |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

Do not use or store near heat or open flame.

Do not store, mix or apply this product or spray solutions of this product in unlined steel (except stainless steel), galvanized steel containers or sprayer tanks. This product or spray solutions of this product will react with these containers and tanks and produce hydrogen gas which may form a highly combustible mixture. This gas mixture could flash or explode causing serious personal injury if ignited by spark, open flame, lighted cigarette, welder torch or other ignition source.

Mix, store and apply spray solutions of this product using only stainless steel, fiberglass, plastic or plastic-lined steel containers.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

|                             |                  |
|-----------------------------|------------------|
| Acute toxicity (oral)       | : Not classified |
| Acute toxicity (dermal)     | : Not classified |
| Acute toxicity (inhalation) | : Not classified |

| VILLAIN                    |  |
|----------------------------|--|
| LD50 oral rat              | 5000 mg/kg                                   |
| LD50 dermal rat            | 6147 mg/kg                                   |
| LC50 inhalation rat (mg/l) | 1.2 mg/l/4h                                  |
| metolachlor (51218-45-2)   |  |
| LD50 oral rat              | 2700 mg/kg (Rat, Oral)                       |
| LD50 dermal rat            | > 3170 mg/kg (Rat, Dermal)                   |
| LC50 inhalation rat (mg/l) | > 1.75 mg/l (4 h, Rat, Inhalation (vapours)) |

|                           |                  |
|---------------------------|------------------|
| Skin corrosion/irritation | : Not classified |
|                           | pH: 3.5 – 5      |

# VILLAIN

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

|                                     |   |
|-------------------------------------|---|
| Serious eye damage/irritation       | : Causes serious eye damage.<br>pH: 3.5 – 5 |
| Respiratory or skin sensitisation   | : May cause an allergic skin reaction.      |
| Germ cell mutagenicity              | : Not classified                            |
| Carcinogenicity                     | : Not classified                            |
| Reproductive toxicity               | : Not classified                            |
| STOT-single exposure                | : Not classified                            |
| STOT-repeated exposure              | : Not classified                            |
| Aspiration hazard                   | : Not classified                            |
| Viscosity, kinematic                | : No data available                         |
| Symptoms/effects after skin contact | : May cause an allergic skin reaction.      |
| Symptoms/effects after eye contact  | : Serious damage to eyes.                   |

## SECTION 12: Ecological information

### 12.1. Toxicity

|                   |                               |
|-------------------|-------------------------------|
| Ecology - general | : Very toxic to aquatic life. |
|-------------------|-------------------------------|

| mesotrione (104206-82-8) |  |
|--------------------------|--|
| ErC50 (algae)            | 0.028 mg/l (OECD 221: Lemna sp. Growth Inhibition Test, 7 day(s), Lemna gibba, Semi-static system, Experimental value) |

### 12.2. Persistence and degradability

| metolachlor (51218-45-2)      |   |
|-------------------------------|---|
| Persistence and degradability | Biodegradability in water: no data available. |
| mesotrione (104206-82-8)      |   |
| Persistence and degradability | Not readily biodegradable in water.           |

### 12.3. Bioaccumulative potential

| metolachlor (51218-45-2)                        |  |
|---|--|
| Bioaccumulative potential                       | No bioaccumulation data available.                                       |
| mesotrione (104206-82-8)                        |  |
| Partition coefficient n-octanol/water (Log Pow) | ≤ 0.32 (Experimental value, EU Method A.8: Partition Coefficient, 20 °C) |
| Bioaccumulative potential                       | Low potential for bioaccumulation (Log Kow < 4).                         |

### 12.4. Mobility in soil

| mesotrione (104206-82-8) |   |
|--------------------------|---|
| Surface tension          | 61.5 mN/m (21 °C, EU Method A.5: Surface tension) |
| Ecology - soil           | Highly mobile in soil.                            |

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

|                         |   |
|-------------------------|---|
| Waste treatment methods | : Dispose of contents/container in accordance with licensed collector's sorting instructions. |
|-------------------------|---|

# VILLAIN

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

|                                |  |
|--------------------------------|--|
| Transport document description | : UN3082 Environmentally hazardous substances, liquid, n.o.s. (CONTAINS METOLACHLOR, MESOTRIONE), 9, III |
| UN-No.(DOT)                    | : UN3082   |
| Proper Shipping Name (DOT)     | : Environmentally hazardous substances, liquid, n.o.s.<br>(CONTAINS METOLACHLOR, MESOTRIONE)             |
| Class (DOT)                    | : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140  |
| Packing group (DOT)            | : III - Minor Danger   |
| Hazard labels (DOT)            | : 9 - Class 9 (Miscellaneous dangerous materials)  |



|                               |       |
|-------------------------------|-------|
| Dangerous for the environment | : Yes |
| Marine pollutant              | : Yes |



|  |  |
|--|--|
| DOT Packaging Non Bulk (49 CFR 173.xxx)                          | : 203  |
| DOT Packaging Bulk (49 CFR 173.xxx)                              | : 241  |
| DOT Symbols  | : G - Identifies PSN requiring a technical name  |
| DOT Special Provisions (49 CFR 172.102)                          | : 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies.<br>146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination.<br>173 - An appropriate generic entry may be used for this material.<br>335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s.," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leakproof when used as bulk packaging.<br>IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).<br>T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)<br>TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.<br>TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP. |
| DOT Packaging Exceptions (49 CFR 173.xxx)                        | : 155  |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : No limit   |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)     | : No limit   |
| DOT Vessel Stowage Location                                      | : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.  |

# VILLAIN

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Emergency Response Guide (ERG) Number : 171  
Other information : No supplementary information available.

### Transportation of Dangerous Goods

Transport document description : UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS METOLACHLOR, GLYPHOSATE), 9, III

UN-No. (TDG) : UN3082

Proper Shipping Name (Transportation of Dangerous Goods) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

TDG Primary Hazard Classes : 9 - Class 9 - Miscellaneous Products, Substances or Organisms

Packing group : III - Minor Danger

TDG Special Provisions : 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a)UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b)UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c)UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d)UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e)UN3249, MEDICINE, SOLID, TOXIC, N.O.S. An example in Canada is the "Food and Drugs Act". (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a)UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b)UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS. SOR/2014-306,99 - (1)Mixtures of solids that are not dangerous goods and liquids or solids that are UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, may be handled, offered for transport or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means containment and during transport. (2)These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety. SOR/2014-306

Explosive Limit and Limited Quantity Index : 5 L

### Transport by sea

Transport document description (IMDG) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((CONTAINS METOLACHLOR, GLYPHOSATE)), 9, III

UN-No. (IMDG) : 3082

Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Class (IMDG) : 9 - Miscellaneous dangerous substances and articles

Packing group (IMDG) : III - substances presenting low danger

Limited quantities (IMDG) : 5 L

Marine pollutant : Yes



### Air transport

Not applicable

# VILLAIN

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### VILLAIN

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

|             |                     |       |
|-------------|---------------------|-------|
| metolachlor | CAS-No. 51218-45-2  | 36.8% |
| mesotrione  | CAS-No. 104206-82-8 | 36.8% |

#### 15.2. International regulations

##### CANADA

##### metolachlor (51218-45-2)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

##### mesotrione (104206-82-8)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

##### EU-Regulations

No additional information available

##### National regulations

##### VILLAIN

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 hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use. PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION: Causes moderate eye irritation. Harmful if inhaled. Avoid contact with eyes or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. Prolonged or frequent repeated skin contact while handling the material may cause allergic reaction in some individuals.

#### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

| Component               | State or local regulations                                 |
|-------------------------|--|
| metolachlor(51218-45-2) | U.S. - New Jersey - Right to Know Hazardous Substance List |

### SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-statements:

|      |                                      |
|------|--------------------------------------|
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage.           |
| H400 | Very toxic to aquatic life.          |

SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*