

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : VILLAIN COMPLETE
Product code : 89167-61-89391

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 H320 Causes 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.
H320 - Causes 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 COMPLETE

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
N-(phosphonomethyl)glycine	(CAS-No.) 1071-83-6	20.5	Eye Dam. 1, H318
metolachlor	(CAS-No.) 51218-45-2	20.5	Not classified
mesotrione	(CAS-No.) 104206-82-8	2.05	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 COMPLETE

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

VILLAIN COMPLETE
No additional information available
N-(phosphonomethyl)glycine (1071-83-6)
No additional information available
metolachlor (51218-45-2)
No additional information available
mesotrione (104206-82-8)
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 : 26F

VILLAIN COMPLETE

Safety Data Sheet

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

Boiling point	: No data available
Flash point	: >200°F
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	: 10.05 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 COMPLETE	
LD50 oral rat	5000 mg/kg
LD50 dermal rat	6147 mg/kg
LC50 inhalation rat (mg/l)	1.2 mg/l/4h
N-(phosphonomethyl)glycine (1071-83-6)	
LD50 oral rat	4873 mg/kg (Rat, Oral)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit, Dermal)
LC50 inhalation rat (mg/l)	> 12.2 mg/l (4 h, Rat, Inhalation)

VILLAIN COMPLETE

Safety Data Sheet

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

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
Serious eye damage/irritation	: Causes serious eye damage. pH: 3.5 – 5
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

N-(phosphonomethyl)glycine (1071-83-6)	
IARC group	2A - Probably carcinogenic to humans

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.
-------------------	-------------------------------

N-(phosphonomethyl)glycine (1071-83-6)	
LC50 fish 1	52 – 240 mg/l (96 h, Oncorhynchus mykiss)

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

N-(phosphonomethyl)glycine (1071-83-6)	
Persistence and degradability	Biodegradable in the soil. No inhibition of biodegradation process in the soil. Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	< 0.0057 g O ₂ /g substance
Chemical oxygen demand (COD)	0.53 g O ₂ /g substance

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

N-(phosphonomethyl)glycine (1071-83-6)	
BCF fish 1	0.03 (336 h, Oncorhynchus mykiss)
BCF fish 2	0.63 (840 h, Lepomis macrochirus)
BCF other aquatic organisms 1	9.6 (840 h, Lamellibranchiata, GLP)
BCF other aquatic organisms 2	8 (672 h, Procambarus sp.)
Partition coefficient n-octanol/water (Log Pow)	-3.4 – -1.7
Bioaccumulative potential	Not bioaccumulative.

VILLAIN COMPLETE

Safety Data Sheet

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

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

N-(phosphonomethyl)glycine (1071-83-6)	
Ecology - soil	Adsorbs into the soil. May be harmful to plant growth, blooming and fruit formation.
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.

SECTION 14: Transport information

Department of Transportation

DOT: NAFTA - **Not Regulated by US DOT for ground shipment**

IMDG:

UN3082, Environmentally Hazardous Substance, Liquid, N.O.S. (Metolachlor/Glyphosate), 9, PG-III, Marine Pollutant

IATA / ICOA:

UN3082, Environmentally Hazardous Substance, Liquid, N.O.S. (Metolachlor/Glyphosate), 9, PG-III

UN Identification No.:

UN3082

Proper Shipping Name:

Environmentally Hazardous Substance, Liquid, N.O.S. (Metolachlor/Glyphosate)

Hazard Class:

9

Packing Group:

III

Reportable Quantity:

None

Environmental Hazard:

Marine Pollutant

Freight Description:

Agricultural herbicide, liquid, n.o.s.

ERG Guide No.:

171

Transport Information Note:

None

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

VILLAIN COMPLETE

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 COMPLETE

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:

N-(phosphonomethyl)glycine	CAS-No. 1071-83-6	20.5%
metolachlor	CAS-No. 51218-45-2	20.5%
mesotrione	CAS-No. 104206-82-8	2.05%

FIFRA Labelling

EPA Registration Number

89167-61-89391

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.

FIFRA Signal Word

Caution

FIFRA Precautionary Statement

Call a doctor if you feel unwell. Keep out of reach of children.

FIFRA Human Health Hazards

CAUTION: Harmful if inhaled. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some people.

FIFRA First Aid

IF
INHALED:
• Move person to fresh air.
• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
• Call a poison control center or doctor for further treatment advice.
IF IN EYES:
• Hold eye open and rinse slowly and gently with water for 15-20 minutes.
• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
• Call a poison control center or doctor for treatment advice.
IF
SWALLOWED:
• Call a poison control center or doctor immediately for treatment advice.
• Have a person sip a glass of water if able to swallow.
• Do not induce vomiting unless told to by the poison control center or doctor.
• Do not give anything by mouth to an unconscious person.
IF ON
SKIN OR
CLOTHING:
• Take off contaminated clothing.
• Rinse skin immediately with plenty of water for 15-20 minutes.
• Call a poison control center or doctor for treatment advice.

FIFRA Environmental Hazards

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. Do not contaminate water when disposing of equipment wash water or rinsate.
Groundwater Advisory
The active ingredient, metolachlor, has the potential to leach through soil into ground water under certain conditions as a result of agricultural use. Groundwater may be contaminated if this product is used in areas where soils are permeable, particularly where the water table is shallow.
Surface Water Advisory
The active ingredients in this product have the potential to contaminate surface water through ground spray drift. Under some conditions, the active ingredients may also have a potential for runoff into surface water (primarily via dissolution in runoff water) for several months post-application. These include poorly drained or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, and areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain to surface water.
A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

VILLAIN COMPLETE

Safety Data Sheet

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

FIFRA Labelling

FIFRA Physical Hazard

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.

15.2. International regulations

CANADA

N-(phosphonomethyl)glycine (1071-83-6)

Listed on the Canadian DSL (Domestic Substances List)

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 COMPLETE

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.

N-(phosphonomethyl)glycine (1071-83-6)

Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

 **WARNING:** This product can expose you to glyphosate, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
N-(phosphonomethyl)glycine(1071-83-6)	U.S. - New Jersey - Right to Know Hazardous Substance List
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.
H320	Causes 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.