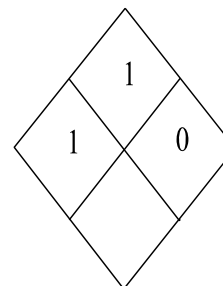


MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: IMPACT® Herbicide; Topramezone SC Herbicide
GENERAL USE: Post-emergent Herbicide for Weed Control in Corn
PRODUCT DESCRIPTION: Grey to beige liquid (suspension)
EPA REGISTRATION NUMBER: 5481-524
AGRICULTURE CANADA REG. NO.: 28141
MSDS NO.: 323_6
CURRENT MSDS REVISION DATE: 17 December, 2009



MANUFACTURER:
AMVAC CHEMICAL CORPORATION
4100 E. Washington Blvd.
Los Angeles, CA 90023-4406
Ph: 323-264-3910
FAX: 323-268-1028

EMERGENCY TELEPHONE NUMBERS:
MANUFACTURER: 323-264-3910
TRANSPORTATION (24 HOURS)
CHEMTREC: 800-424-9300
OTHER (24 HOURS)
AMVAC: 323-264-3910

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	WT %	CAS No.
Topramezone	29.7%	210631-68-8
Inert Ingredients	70.3%	

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)

None of the components of this product are listed as being hazardous under 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

CAUTION! KEEP out of the Reach of Children!

*Impact is a registered trademark of Amvac Chemical Corporation.

3. HAZARDS IDENTIFICATION, cont'd

ROUTE(S) OF ENTRY: Potential routes of entry include inhalation of mists, contact with the eyes, and ingestion.

SIGNS OF ACUTE OR CHRONIC OVEREXPOSURE: In animal studies, repeated exposure at dose levels of 3.6 mg/kg/day and higher, have shown an increased incidence of corneal opacities, decreased body weight gain, liver, pancreas and thyroid effects. There is also the potential for increased sensitivity in the young from exposure to topramezone.

CARCINOGENICITY: Thyroid follicular cell adenomas were seen in the rat bioassay. However, in accordance with the EPA Final Guidelines for Carcinogen Risk Assessment (2005), EPA has classified topramezone as “not likely to be carcinogenic to humans at doses that do not alter rat thyroid hormone homeostasis”.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None are known.

4. FIRST AID MEASURES

EYES: Immediately flush the eyes with copious amounts of clear, cool running water for a minimum of 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eyes and lids with water. Contact a physician immediately. If there will be a delay in getting medical attention, rinse the eyes for at least another 15 minutes.

INHALATION: Remove victim to fresh air. If breathing has ceased, clear the victim's airway and start mouth-to-mouth artificial respiration. If breathing is difficult, give oxygen. Contact a physician immediately. Be sure the contact areas are clean to prevent contamination of the rescuer.

INGESTION: Immediately dilute the swallowed product by giving large quantities of water, but do not induce vomiting. If vomiting occurs, give fluids again. Have a physician determine if condition of patient will permit induction of vomiting or evacuation of stomach. Never give anything by mouth to an unconscious person. Contact a physician immediately.

SKIN: Immediately flush all affected areas with large amounts of clear water for at least 15 minutes. Remove contaminated clothing. Do not attempt to neutralize with chemical agents. Wash clothing before reuse. If skin irritation develops, contact a physician immediately.

NOTE TO PHYSICIANS: Treat according to the symptoms observed (decontamination, vital functions). There is no known specific antidote for the components in this product.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

Flash Point:	> 100°C (212°F) - water based formulation
Autoignition Temperature:	Not available
Flammable Limits:	
Lower flammable limit:	Not applicable
Upper flammable limit:	Not applicable

EXPLOSIVITY:

Mechanical Impact:	Not expected to be explosive
Static Discharge:	Not expected to be explosive

HAZARDOUS COMBUSTION PRODUCTS: May give off carbon oxides, nitrogen oxides, sulfur oxides, and unknown compounds from partial combustion.

EXTINGUISHING MEDIA: Water spray, foam, carbon dioxide (CO₂), dry extinguishing media.

FIRE FIGHTING INSTRUCTIONS: Keep bystanders away. Wear full bunker gear, including self-contained breathing apparatus. Collect contaminated water and dispose of water and debris in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

GENERAL: Use adequate ventilation. Wear protective personal equipment (see section 8). Keep bystanders upwind and away from the spill.

SMALL SPILL: Cover with absorbent (clay, sawdust, straw, kitty litter, etc.), to absorb the liquid. Sweep into an open drum. Clean the area with common powdered household detergent and a stiff brush and just enough water to make a slurry. Absorb and sweep into the same open drum. Rinse with water, absorb, and add to the waste drum. Close the drum and dispose of properly.

LARGE SPILL: Dike the spill to prevent contamination of local water sources. Siphon the majority of the liquid into drums for use or disposal, depending on the circumstances. Clean the area as described for a small spill.

7. HANDLING AND STORAGE

HANDLING: Wear personal protective equipment when handling this product. Do not eat, drink or smoke when using this product. Wash thoroughly after handling this product.

STORAGE: Store in the original container until ready to use. Store in a cool, dry location away from food or feedstuffs. Keep away from children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: It is recommended that all mixing be done in a well ventilated area.

RESPIRATORY PROTECTION: If a well ventilated area is not available during mixing or application, it may be necessary to use an MSHA/OSHA approved respirator fitted with organic vapor cartridges.

SKIN PROTECTION: Persons working with this product should wear a long-sleeved shirt, trousers, shoes, and a hat. Hands should be protected by chemical resistant gloves, such as nitrile. All clothing should be washed prior to reuse.

EYE PROTECTION: Safety glasses, with sideshields, are required whenever someone is working with potentially hazardous chemicals. If there is a possibility of splashing or misting, safety goggles and/or a full faceshield are required.

OTHER PROTECTION: An eyewash station should be available whenever persons are working with potentially hazardous chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid (Suspension Concentrate)
APPEARANCE:	Grey to beige opaque liquid
ODOR:	Faint odor
ODOR THRESHOLD:	Not available
BOILING POINT:	Approx 100°C (212°F)
FREEZING/MELTING POINT:	Approx -4°C (25°F)
SPECIFIC GRAVITY:	1.13 g/cc @ 20°C
DENSITY:	9.43 lb/gal
EVAPORATION RATE:	1.0 (as water)
VAPOR PRESSURE:	Equal to water evaporation
VAPOR DENSITY:	Same as water
PERCENT VOLATILE BY VOLUME:	Approximately 70%
SOLUBILITY (Water):	Dispersible
SOLUBILITY (Other):	Not available
pH:	3.2 (1% @ 20°C)
PARTITION COEFFICIENT (O/W):	-1.52(a.i)

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (Conditions to avoid): Stable under normal storage and use conditions.

INCOMPATIBILITY: Avoid strong bases and oxidizers.

10. STABILITY AND REACTIVITY, cont'd

HAZARDOUS DECOMPOSITION PRODUCTS: This product will give off hazardous fumes when burned. Compounds given off may include sulfur oxides, nitrogen oxides, and carbon monoxide, as well as unknown products from partial combustion.

HAZARDOUS POLYMERIZATION: This product will not polymerize.

11. TOXICOLOGICAL INFORMATION

GENERAL: The following information is available for the active ingredient, Topramezone. It is presented to aid the applicator in determining the hazards involved in working with the formulation.

INGESTION:	Oral LD ₅₀ (rat)	>2000 mg/kg Tox Cat III
INHALATION:	Inhalation LC ₅₀ (rat)	>5.4 mg/L Tox Cat IV
DERMAL:	Dermal LD ₅₀ (rat)	>2000 mg/kg Tox Cat III
IRRITATION:	Eye Irritation	Slightly irritating Tox Cat III
	Skin Irritation	Slightly irritation Tox Cat III
SENSITIZATION:	Skin Sensitization (guinea pig)	Not a sensitizer

TERATOGENICITY: Developmental and maternal effects were seen in laboratory animals. A developmental NOAEL however was established at 0.5 mg/kg/day for alterations in skeletal ossification sites in the rabbit.

MUTAGENICITY: Not considered to be mutagenic from the range of genotoxicity studies that have been carried out in the laboratory.

CARCINOGENICITY: Thyroid follicular cell adenomas were seen in the rat bioassay. However, in accordance with the EPA Final Guidelines for Carcinogen Risk Assessment (2005), EPA has classified topramezone as “not likely to be carcinogenic to humans at doses that do not alter rat thyroid hormone homeostasis”.

REPRODUCTIVE TOXICITY: Reproductive effects in the rat were seen in both parents and offspring with the NOAEL established at 0.4 mg/kg/day.

TOXICOLOGICAL SYNERGISTIC PRODUCTS: No information is available.

12. ECOLOGICAL INFORMATION

GENERAL: No information is available for the formulation. The following information is available for the active ingredient, Topramezone, and can be used to estimate toxicity due to use of this formulation.

Toxicity to fish:	LC ₅₀ (Oncorhynchus mykiss)	>100 mg/L (96 hr) nominal concentration
Aquatic invertebrates:	EC ₅₀ (Daphnia magna)	> 100 mg/L (48 hr)
Aquatic plants:	EC ₅₀ (Pseudokirchneriella subcapitata)	67.7 mg/L (96 hr)
	EC ₅₀ (Lemna gibba)	0.125 mg/L (7 d)
Microorganisms:	EC ₅₀ (activated sludge)	> 1000 mg/L (180 min)

13. DISPOSAL CONSIDERATIONS

GENERAL: Both the product and the packaging should be disposed according to the Federal, state and local regulations. Check with your Federal, state or local regulatory agency for further instructions.

14. TRANSPORTATION INFORMATION

GENERAL: This product is not classified as hazardous under current transportation regulations.

PACKAGING

GENERAL DESCRIPTION: 7.5 oz, 30 oz and 2.5 gallon bottles, 55 gallon drums

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: This product is registered under EPA/FIFRA Regulations. It is a violation of Federal Law to use this product in any manner inconsistent with its stated purpose. This product is excluded from listing requirements under EPA/TSCA.

CANADIAN REGULATIONS: This product is registered under the Pest Control Product Act of Canada. It is a violation of Canadian Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions.
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

SARA TITLE III DATA

Section 311 & 312 Hazard Categories:

Immediate Health Hazard:	No
Delayed Health Hazard:	Yes
Fire Hazard:	No
Reactive Hazard:	No
Sudden Pressure Release Hazard:	No

Section 302 Extremely Hazardous Substances: Trace quantities of the following chemicals can be found in this formulation:

Formaldehyde (CAS 50-00-0)	TPQ = 500 lbs
Phenol (CAS 108-95-2)	TPQ = 500/1000 lbs

Section 313 Toxic Chemicals: Trace quantities of the following chemicals can be found in this formulation:

Formaldehyde (CAS 50-00-0)
Phenol (CAS 108-95-2)

CERCLA/EHS REPORTABLE QUANTITIES (RQ): Trace quantities of the following chemicals can be found in this formulation:

Formaldehyde (CAS 50-00-0)	100 lbs
Phenol (CAS 108-95-2)	1000 lbs

15. REGULATORY INFORMATION, cont'd

STATE REGULATIONS:

CALIFORNIA (Proposition 65): None

16. OTHER INFORMATION

MSDS STATUS:

Date This Revision: 17 December, 2009

Date Previous Revision: 6 December, 2006

Person Responsible for Preparation: Gary A. Braden

REASONS FOR REVISION: Information has been updated in sections 3, 14 and 15 to current levels of knowledge and to make the information easier to understand.

DISCLAIMER: This information is provided for the limited guidance to the user. While AMVAC believes that the information is, as of the date hereof, reliable, it is the user's responsibility to determine the suitability of the information for its purposes. The user is advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional, or variable conditions or circumstances exist (like combinations with other materials), or because of applicable regulations. No express or implied warranty of merchantability or fitness for a particular purpose or otherwise is made hereunder with respect to the information or the product to which the information relates.

ABBREVIATIONS:

ACGIH	-	American Conference of Governmental Industrial Hygienists
ADR	-	European <u>A</u> greement Concerning the International Carriage of <u>D</u> angerous Goods by <u>R</u> oad
CERCLA	-	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	-	Code of Federal Regulations
EPA	-	Environmental Protection Agency
FIFRA	-	Federal Insecticide, Fungicide, and Rodenticide Act
IARC	-	International Agency for Research on Cancer
NTP	-	National Toxicology Program
OSHA	-	Occupational Safety and Health Agency
SARA	-	Superfund Amendments and Reauthorization Act
TSCA	-	Toxic Substances Control Act

This is the last page of this MSDS. There should be 7 pages.