1. Identification
Product identifier IMPACT® Herbicide
Other means of identification
SDS number 323
Synonyms Topramezone SC Herbicide
Recommended use Herbicide. For postemergence weed control in all types of field corn, popcorn and seed corn.
Recommended restrictions Keep out of the Reach of Children!
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name AMVAC Chemical Corporation
Address 4100 E Washington Blvd
Los Angeles, CA 90023 USA
Telephone AMVAC Chemical Corp 323-264-3910
AMVAC Chemical Corp 323-268-1028 (FAX)
Website www.Amvac-Chemical.com
E-mail CustServ@Amvac-Chemical.com
Emergency phone number Medical 888-681-4261
CHEMTREC® (USA+Canada) 800-424-9300
Product Use 888-462-6822
CHEMTREC® (Outside USA) +1-703-527-3887
Supplier Not available.

2. Hazard(s) identification
Physical hazards Not classified.
Health hazards Sensitization, skin Category 1
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2
Label elements
Signal word Warning
Hazard statement May cause an allergic skin reaction. Suspected of damaging fertility or the unborn child.
Precautionary statement
Prevention Do not handle until all safety precautions have been read and understood. Contaminated work clothing should not be allowed out of the workplace. Use personal protective equipment as required.
Response If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal Dispose of contents/container (in accordance with related regulations). Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards Harmful to aquatic life.
Supplemental information None.

3. Composition/information on ingredients
Mixtures
Material name: IMPACT® Herbicide
907 Version #: 01 Issue date: 04-07-2016

### Chemical name

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topramezone</td>
<td></td>
<td>210631-68-8 29.7% (336 g/L)</td>
</tr>
</tbody>
</table>

### Additional components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inert Ingredients</td>
<td></td>
<td>N/A 70.3</td>
</tr>
</tbody>
</table>

DSD: Directive 67/548/EEC.
M: M-factor
vPvB: very persistent and very bioaccumulative substance.
PBT: persistent, bioaccumulative and toxic substance.
*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret. #: This substance has been assigned Community workplace exposure limit(s).

### First-aid measures

**Inhalation**
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.

**Skin contact**
Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

**Eye contact**
Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion**
Direct contact with eyes may cause temporary irritation. May cause an allergic skin reaction. Dermatitis. Rash.

**Most important symptoms/effects, acute and delayed**
Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

**Indication of immediate medical attention and special treatment needed**
IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

### Fire-fighting measures

**Suitable extinguishing media**
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media**
Not available.

**Specific hazards arising from the chemical**
During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**
Firefighters should wear full protective clothing including self contained breathing apparatus.

**Fire fighting equipment/instructions**
Move containers from fire area if you can do so without risk.

**Specific methods**
Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards**
No unusual fire or explosion hazards noted.

### Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**
Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent product from entering drains. Siphon the majority of the liquid into drums for use or disposal, depending on the circumstances. Absorb in vermiculite, dry sand or earth and place into containers. Clean surface thoroughly to remove residual contamination.

**Environmental precautions**
Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases. Contact local authorities in case of spillage to drain/aquatic environment.
7. Handling and storage

Precautions for safe handling
Do not handle until all safety precautions have been read and understood. Avoid contact with eyes, skin, and clothing. Pregnant or breastfeeding women must not handle this product. Wear appropriate personal protective equipment. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
CAUTION Store locked up. Keep away from heat, sparks and open flame. Store in a closed container away from incompatible materials. Store in original tightly closed container. Keep container tightly closed. Store in a well-ventilated place. Keep out of the reach of children. Use care in handling/storage. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits
No exposure limits noted for ingredient(s).

Biological limit values
No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
General ventilation normally adequate. Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/face protection
If contact is likely, safety glasses with side shields are recommended.

Skin protection

Hand protection
Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other
Avoid contact with the skin. Wear appropriate chemical resistant clothing (see label). Wear chemical protective equipment that is specifically recommended by the manufacturer. Wear suitable protective clothing. Long-sleeved shirt and long pants or coveralls, socks and closed toe shoes are required.

Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards
Not available.

General hygiene considerations
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state
Liquid.

Form
Liquid. Suspension concentrate.

Color
Grey to beige opaque

Odor
Faint odor

Odor threshold
Not available

pH
3 - 3.5 (1% dispersion @ 20 °C)

Melting point/freezing point
24.8 °F (-4 °C)

Initial boiling point and boiling range
212 °F (100 °C)

Flash point
Not available.

Evaporation rate
1 as water

Flammability (solid, gas)
Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%)
Not available.

Explosive limit - upper (%)
Not available.

Vapor pressure
Equal to water evaporation

Vapor density
Same as water

Relative density
Not available.

Solubility(ies)

Solubility (water)
Dispersible

Partition coefficient (n-octanol/water)
1.52 (a.i.)
Auto-ignition temperature: 700 °F (371.11 °C) estimated
Decomposition temperature: Not available.
Viscosity: Not available.

Other information
- **Bulk density**: 9.43 lb/gal
- **Density**: 1.03 g/cm³ estimated
- **Percent volatile**: 70%
- **Specific gravity**: 1.13 @ 20°C

10. Stability and reactivity

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

**Chemical stability**
Material is stable under normal conditions.

**Possibility of hazardous reactions**
No dangerous reaction known under conditions of normal use.

**Conditions to avoid**
Heat, flames and sparks. Contact with incompatible materials.

**Incompatible materials**
Strong oxidizing agents.

**Hazardous decomposition products**
No hazardous decomposition products are known. This product may emit hazardous fumes of hydrogen chloride, carbon oxides, and unidentified organic compounds when it is heated excessively or burned. **WEAR SELF-CONTAINED BREATHING APPARATUS** when these conditions are present.

11. Toxicological information

**Information on likely routes of exposure**

**Inhalation**
No adverse effects due to inhalation are expected.

**Skin contact**
No adverse effects due to skin contact are expected. May be harmful in contact with skin. May cause sensitization by skin contact. May cause an allergic skin reaction. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

**Eye contact**
Irritating to eyes. Direct contact with eyes may cause temporary irritation.

**Ingestion**
May be harmful if swallowed. May cause discomfort if swallowed. Expected to be a low ingestion hazard. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms related to the physical, chemical and toxicological characteristics**
Direct contact with eyes may cause temporary irritation. May cause an allergic skin reaction. Dermatitis. Rash.

**Information on toxicological effects**

**Acute toxicity**
May cause an allergic skin reaction.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topramezone (CAS 210631-68-8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rat</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>&gt; 5.4 mg/l</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>&gt; 2000 mg/kg</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation**
Due to partial or complete lack of data the classification is not possible. Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation**
Irritating to eyes. Direct contact with eyes may cause temporary irritation. Due to partial or complete lack of data the classification is not possible. None known.

**Respiratory or skin sensitization**
**Respiratory sensitization**
Due to partial or complete lack of data the classification is not possible. Not a respiratory sensitizer.
Skin sensitization
May cause sensitization by skin contact. May cause an allergic skin reaction. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. This product is not expected to cause skin sensitization.

Germ cell mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. Due to partial or complete lack of data the classification is not possible.

Carcinogenicity
Not classifiable as to carcinogenicity to humans. Due to partial or complete lack of data the classification is not possible.

Reproductive toxicity
May damage fertility or the unborn child. Suspected of damaging fertility or the unborn child. Not classified. This product is not expected to cause reproductive or developmental effects. Reproductive effects in the rat were seen in both parents and offspring with NOAEL established at 0.4 mg/kg/day.

Specific target organ toxicity - single exposure
Due to partial or complete lack of data the classification is not possible. Not classified.

Specific target organ toxicity - repeated exposure
Not classified. Due to partial or complete lack of data the classification is not possible.

Aspiration hazard
Due to partial or complete lack of data the classification is not possible. Not an aspiration hazard.

Chronic effects
Not expected to be hazardous by WHMIS criteria. Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity
Very toxic to aquatic life with long lasting effects. Toxic to aquatic life. Harmful to aquatic life. Harmful to aquatic life with long lasting effects. Contains a substance which causes risk of hazardous effects to the environment. Not expected to be harmful to aquatic organisms. The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topramezone (CAS 210631-68-8)</td>
<td>Activated sludge, industrial</td>
<td>&gt; 1000 mg/l, 180 minutes</td>
</tr>
<tr>
<td>Other</td>
<td>Algae</td>
<td>0.125 mg/l, 7 days (Lemna Gibba)</td>
</tr>
<tr>
<td></td>
<td>Pseudokirchnerella subcapitata</td>
<td>67.7 mg/l, 96 hr</td>
</tr>
<tr>
<td></td>
<td>Daphnia magna</td>
<td>&gt; 100 mg/l, 48 hr</td>
</tr>
<tr>
<td></td>
<td>Oncorhynchus mykiss</td>
<td>&gt; 100 mg/l, 96 hr nominal concentration</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

Persistence and degradability
No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)
Topramezone 1.52

Mobility in soil
No data available.

Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions
Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. Dispose in accordance with all applicable regulations. Dispose of contents/container (in accordance with related regulations). When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

Local disposal regulations
Dispose in accordance with all applicable regulations.

Hazardous waste code
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Avoid discharge into water courses or onto the ground. Dispose of container and residues in accordance with all applicable regulations.

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not established.

15. Regulatory information

Canadian regulations
This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR. 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 SDS contains all the information required by the CPR.

Controlled Drugs and Substances Act
Not regulated.

Export Control List (CEPA 1999, Schedule 3)
Not listed.

Greenhouse Gases
Not listed.

Precursor Control Regulations
Not regulated.

International regulations

Stockholm Convention
Not applicable.

Rotterdam Convention
Not applicable.

Kyoto protocol
Not applicable.

Montreal Protocol
Not applicable.

Basel Convention
Not applicable.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA)</td>
<td>No</td>
</tr>
</tbody>
</table>

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).
16. Other information

Issue date: 04-07-2016
Version #: 01

References

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
EPA: AQUIRE database
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
NLM: Hazardous Substances Data Base

US. IARC Monographs on Occupational Exposures to Chemical Agents
Korea. Accidental Release Prevention Substances (Presidential Decree of Toxic Chemical Control Law, Executive Order No. 19203)
Korea. Dangerous Substances Threshold Quantity (Presidential Decree of Dangerous Substances Safety Management Act No. 18406, Schedule 1)
Korea. Harmful Substances Prohibited from Manufacturing (Presidential Decree on the Industrial Safety and Health Act (No. 13053), Article 29)
Korea. Harmful Substances Requiring Permission for Manufacture or Use (Presidential Decree on the Industrial Safety and Health Act (No. 13053), Article 30)
Korea. Observational Chemicals (Ministerial Decree of TCCL Article 6)
Korea. OELs. Regulation for Permitted Concentration of Hazardous Substances (Ministry of Labor (MOL) Public Notice No. 1986-45, as amended)
Korea. Prohibited Chemical Substances (TCCL Article 11)
Korea. Regulated volatile organic compounds (VOCs) (MOE Notice No. 2001-36, March 8, 2001, as amended)
Korea. Restricted Chemical Substances (TCCL Article 11)
Korea. Toxic Chemical Control Law (TCCL), Existing Chemicals Inventory (KECI)
Korea. Toxic Chemical Control Law (TCCL), pre-1997 List
Korea. Toxic Chemicals (TCCL Article 10)
Korea. Toxic Release Inventory (TRI) Chemicals (TCCL Article 14)
Taiwan. Dangerous Materials (Rules on Hazard Communication of Dangerous Materials and Toxic Materials)
Taiwan. Industrial Precursor Chemicals (Categories and Regulations Governing Inspection and Declaration of Industrial Precursor Chemicals, MOEA Decree No. 87, as amended)
Taiwan. OELs. (Standards on Workplace Atmosphere of Dangerous and Hazardous Materials)
Taiwan. Toxic Chemical Substances (TCS) (List of Toxic Chemical Substances announced by the Environmental Protection Administration)
Taiwan. Toxic Materials (Rules on Hazard Communication of Dangerous Materials and Toxic Materials)
Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits
Japan Chemical Industry Association (JCIA) GHS Guideline, June 2012
JIS Z 7252:2014 Classification of chemicals based on “Globally Harmonized System of Classification and Labelling of Chemicals (GHS)”
JIS Z 7253:2012 Hazard communication of chemicals based on GHS – Labelling and Safety Data Sheet (SDS)
GOST 30333-2007 Chemical production safety passport. General requirements.
GOST 31340-2013 Labeling of chemicals. General requirements.
GOST 32419-2013 Classification of chemical products. General requirements.
GOST 32424-2013 Classification of chemicals for environmental hazards. General principles.
GOST 12.1.007-76 Occupational safety standard system. Noxious substances. Classification and general safety requirements.
GOST 19439-88. Dangerous goods. Classification and marking.
GOST 32425-2013 Mixtures classification of hazard for environmental.
GOST 32423-2013 Mixtures classification of hazard for health.
ACGIH®: American Conference of Governmental Industrial Hygienists
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
EPA: Environmental Protection Agency
FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act
IARC: International Agency for Research on Cancer
NTP: National
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NFPA is a trademark of the National Fire Protection Association.

Revision information

Product and Company Identification: Synonyms
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Property Data
Ecological Information: Ecotox Property Data
Transport Information: Material Transportation Information
HazReg Data: International Inventories
GHS: Classification