1. Identification

**Product identifier**
IMPACT® Herbicide

**Other means of identification**
- SDS number: 323
- Synonym(s): 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!
- **EPA Registration number**: 5481-524
- **Pest Control Products Act (Canada)**: 28141

**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

2. Hazard(s) identification

**Physical hazards**
- Not classified.

**Health hazards**
- Sensitization, skin
  - Category 1
- Reproductive toxicity
  - Category 2

**Environmental hazards**
- Not classified.

**OSHA defined hazards**
- Not classified.

**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 locked up.
  - **Disposal**: Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Hazard(s) not otherwise classified (HNOC)**
  - Harmful to aquatic life.
- **Supplemental information**: None.
3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanone, [3-(4,5-dihydro-3-isoxazolyl)-2-methyl-4-methylsulfonylphenyl](5-hydroxy-1-methyl-1H-pyrazol-4-yl)-</td>
<td>Topramezone IMPACT®</td>
<td>210631-68-8</td>
<td>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>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inert Ingredients</td>
<td></td>
<td>N/A</td>
<td>70.3</td>
</tr>
</tbody>
</table>

4. 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.

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

Ingestion
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.

5. 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.

6. 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
Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.
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. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRADE SECRET</td>
<td>TWA</td>
<td>10 mg/m³</td>
</tr>
</tbody>
</table>

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
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              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 Contact with incompatible materials.
Incompatible materials Strong oxidizing agents.
Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information
Information on likely routes of exposure
   Inhalation No adverse effects due to inhalation are expected.
   Skin contact May cause an allergic skin reaction.
   Eye contact Expected to be a low ingestion hazard.
   Ingestion Direct contact with eyes may cause temporary irritation.
   Symptoms related to the physical, chemical and toxicological characteristics May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects
   Acute toxicity May cause an allergic skin reaction.

Components | Species | Test Results
--- | --- | ---
Methanone, [3-(4,5-dihydro-3-isoxazolyl)-2-methyl-4-methylsulfonylphenyl][5-hydroxy-1-methyl-1H-pyrazol-4-yl]- (CAS 210631-68-8)
   Acute
   Dermal Rat LD50 > 2000 mg/kg
   Inhalation Rat LC50 > 5.4 mg/l
   Oral Rat LD50 > 2000 mg/kg

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

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization
   Respiratory sensitization Not a respiratory sensitizer.
   Skin sensitization May cause an allergic skin reaction.
Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity Not carcinogenic.
IARC Monographs. Overall Evaluation of Carcinogenicity Not listed.
Reproductive toxicity
Suspected of damaging fertility or the unborn child. 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
Not classified.

Specific target organ toxicity - repeated exposure
Not classified.

Aspiration hazard
Not an aspiration hazard.

Chronic effects
Prolonged inhalation may be harmful.

12. Ecological information
Ecotoxicity
Harmful to aquatic life.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanone, [3-(4,5-dihydro-3-isoxazolyl)-2-methyl-4-methylsulfonyl]phenyl][5-hydroxy-1-methyl-1H-pyrazol-4-yl)- (CAS 210631-68-8)</td>
<td>Activated sludge, industrial</td>
<td>&gt; 1000 mg/l, 180 minutes</td>
</tr>
<tr>
<td>Other</td>
<td>EC50</td>
<td>&gt; 1000 mg/l, 180 minutes</td>
</tr>
<tr>
<td>Aquatic</td>
<td>EC50</td>
<td>&gt; 1000 mg/l, 180 minutes</td>
</tr>
<tr>
<td>Algae</td>
<td>Algae</td>
<td>&gt; 1000 mg/l, 180 minutes</td>
</tr>
<tr>
<td>Pseudokirchnerella subcapitata</td>
<td>67.7 mg/l, 96 hr</td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>Daphnia magna</td>
<td>&gt; 100 mg/l, 48 hr</td>
</tr>
<tr>
<td>Fish</td>
<td>Oncorhynchus mykiss</td>
<td>&gt; 100 mg/l, 96 hr nominal concentration</td>
</tr>
</tbody>
</table>

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

Bioaccumulative potential
Partition coefficient n-octanol / water (log Kow)
Methanone, [3-(4,5-dihydro-3-isoxazolyl)-2-methyl-4-methylsulfonyl]phenyl][5-hydroxy-1-methyl-1H-pyrazol-4-yl)- 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
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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.

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.

Waste from residues / unused products
Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal methods/information). Dispose of container and residues in accordance with all applicable regulations.

Contaminated packaging
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
DOT
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

US federal regulations
This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. 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 labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

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.

HAZARD TO HUMANS AND DOMESTIC ANIMALS.

CAUTION! Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin, and clothing. Wash thoroughly with soap and water after handling.

ENVIRONMENTAL HAZARDS
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 washwater or rinsate. Do not apply this product through any type of irrigation system. Product must be used in a manner which will prevent back siphoning in wells, spills or improper disposal of excess pesticide, spray mixtures or rinsate.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.
US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.

US. Massachusetts RTK - Substance List
Not regulated.

US. New Jersey Worker and Community Right-to-Know Act
TRADE SECRET (CAS Proprietary)

US. Pennsylvania Worker and Community Right-to-Know Law
TRADE SECRET (CAS Proprietary)

US. Rhode Island RTK
Not regulated.

US. California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

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) Inventory</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, including date of preparation or last revision

Issue date          09-01-2015
Revision date       09-20-2016
Version #           3.0

Further information
Not available.

HMIS® ratings
Health: 2*
Flammability: 0
Physical hazard: 0

NFPA ratings
Health: 2
Flammability: 0
Instability: 0

Disclaimer
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HMIS is a trademark of the American Coatings Association.
NFPA is a trademark of the National Fire Protection Association, Inc.

Revision information

Product and Company Identification: Synonyms
Composition/information on ingredients: Composition comments
Composition/information on ingredients: Component information
Physical and chemical properties: Form
Ecological Information: Ecotoxicity
Ecological information: Phrases
Disposal considerations: Waste from residues / unused products
Other information, including date of preparation or last revision: References