SAFETY DATA SHEET

1. Identification

Product identifier
IMPACTZ

Other means of identification
SDS number 526
Product registration number 5481-612

Recommended use
Herbicide.

Recommended restrictions
No other uses are advised.
Keep out of the Reach of Children!

EPA Registration number
EPA: 5481-612

Manufacturer/Importer/Supplier/Distributor information

Manufacturer
Company name AMVAC Chemical Corporation
Address 4685 MacArthur Court
          Suite 1200
          Newport Beach, CA 92660

Telephone
AMVAC Chemical Corp 949-260-1200
AMVAC Chemical Corp 949-260-6270(FAX)

Website www.Amvac-Chemical.com
E-mail CustServ@Amvac-Chemical.com

Emergency phone number
Medical 888-681-4261
CHEMTREC® 800-424-9300
(USA+Canada)
Product Use 888-462-6822
CHEMTREC® (Outside USA) +1-703-527-3887

2. Hazard(s) identification

Physical hazards
Not classified.

Health hazards
Acute toxicity, oral Category 4
Sensitization, skin Category 1A
Reproductive toxicity Category 2
Specific target organ toxicity, repeated exposure Category 2

Environmental hazards
Hazardous to the aquatic environment, acute hazard Category 2
Hazardous to the aquatic environment, long-term hazard Category 2

OSHA defined hazards
Not classified.

Label elements

Signal word Warning

Hazard statement
Harmful if swallowed.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.
Toxic to aquatic life.
Toxic to aquatic life with long lasting effects.
Precautionary statement

Prevention
Do not handle until all safety precautions have been read and understood.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Avoid release to the environment.

Response
If exposed or concerned: Get medical advice/attention.
If SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Take off contaminated clothing and wash it before reuse.
Wash hands after handling.
Collect spillage.

Storage
Store locked up.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)
None known.

Supplemental information
This 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 in section 15. The pesticide label also includes other important information, including directions for use.
Restricted Use is due to ground and surface water concerns. See label for applicable precautionary statements and instructions.

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>Atrazine</td>
<td>1-Chloro-3-(ethylamino)-5-(isopropylamino)-2,4,6-triazine</td>
<td>1912-24-9</td>
<td>42.6</td>
</tr>
<tr>
<td>Atrazine related compounds</td>
<td>N/A</td>
<td>1.11</td>
<td></td>
</tr>
<tr>
<td>Topramezone</td>
<td>210631-68-8</td>
<td>2.85</td>
<td></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>Undisclosed Ingredients</td>
<td>N/A</td>
<td>53.44</td>
<td></td>
</tr>
</tbody>
</table>

4. First-aid measures

Inhalation
Move 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 CENTER or doctor/physician if you feel unwell.

Skin contact
Remove contaminated clothing. Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Most important symptoms/effects, acute and delayed
Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information
IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media
Alcohol resistant foam. Powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.
During fire, gases hazardous to health may be formed. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials. 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. Do not breathe mist or vapor. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Siphon the majority of the liquid into drums for use or disposal, depending on the circumstances.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece).

Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Provide adequate ventilation. Wear appropriate personal protective equipment.

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>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atrazine (CAS 1912-24-9)</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>Inhalable fraction.</td>
</tr>
<tr>
<td>Atrazine (CAS 1912-24-9)</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Biological limit values

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

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin protection: Wear appropriate chemical resistant gloves.

Hand protection: Wear suitable protective clothing as protection against splashing or contamination.

Other: In case of insufficient ventilation, wear suitable respiratory equipment.

Respiratory protection: Not applicable.

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.

9. Physical and chemical properties

Appearance

Liquid.
Form: Suspension concentrate. Slightly viscous liquid.
Color: White.
Odor: Pleasant. Faint odor
Odor threshold: Not available.
\( \text{pH} \): 4.94 (neat)
Melting point/freezing point: \(< 32 \, ^\circ\text{F} (< 0 \, ^\circ\text{C})\)
Initial boiling point and boiling range: \(> 212 \, ^\circ\text{F} (> 100 \, ^\circ\text{C})\)
Flash point: \(> 212 \, ^\circ\text{F} (> 100 \, ^\circ\text{C})\)
Evaporation rate: Not available.
Flammability (solid, gas): Not applicable.
Upper/lower flammability or explosive limits:
  - Explosive limit - lower (%): Not available.
  - Explosive limit - upper (%): Not available.
Vapor pressure: 9.25E-03 hPa estimated
Vapor density: Not available.
Relative density: Not available.
Solubility(ies):
  - Solubility (water): Not available.
Auto-ignition temperature: 700 °F (371 °C) estimated
Decomposition temperature: Not available.
Viscosity: Not available.
Other information:
  - Density: 1.12 g/ml (@ 20°C)
  - Explosive properties: Not explosive.
  - Flammability class: Combustible IIIB estimated
  - Oxidizing properties: Not oxidizing.
  - Particle size: < 4 µm

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: Emits hazardous fumes and smoke of unknown composition when heated to decomposition or burned.

11. Toxicological information
Information on likely routes of exposure:
  - Inhalation: May cause damage to organs through prolonged or repeated exposure by inhalation.
  - Skin contact: No adverse effects due to skin contact are expected.
  - Eye contact: Not an eye irritant
  - Ingestion: Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics: Not available.
Information on toxicological effects:
  - Acute toxicity: May be harmful if swallowed.
<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPACTZ</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Acute</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Dermal</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Liquid</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LD50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Inhalation</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Mist</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 4.1 mg/l, 4 hr</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Oral</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Liquid</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LD50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2000 mg/kg (female)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Non irritating to skin.</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Not an eye irritant</td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>Not a respiratory sensitizer.</td>
<td></td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>May cause sensitization by skin contact.</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.</td>
<td></td>
</tr>
<tr>
<td>IARC Monographs. Overall Evaluation of Carcinogenicity</td>
<td>Atrazine (CAS 1912-24-9) 3 Not classifiable as to carcinogenicity to humans.</td>
<td></td>
</tr>
<tr>
<td>US. National Toxicology Program (NTP) Report on Carcinogens</td>
<td>Not listed.</td>
<td></td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Suspected of damaging fertility or the unborn child.</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure</td>
<td>No specific target organ toxicity is expected after single exposure.</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity - repeated exposure</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not an aspiration hazard.</td>
<td></td>
</tr>
<tr>
<td>12. Ecological information</td>
<td>Toxic to aquatic life. Toxic to aquatic life with long lasting effects.</td>
<td></td>
</tr>
<tr>
<td>Ecotoxicity</td>
<td>Components</td>
<td>Species</td>
</tr>
<tr>
<td>Atrazine (CAS 1912-24-9)</td>
<td>Aquatic</td>
<td>Crustacea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fish</td>
</tr>
<tr>
<td>Topramezone (CAS 210631-68-8)</td>
<td>Aquatic</td>
<td>Crustacea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fish</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>No data is available on the degradability of this product.</td>
<td></td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partition coefficient n-octanol / water (log Kow)</td>
<td>Atrazine</td>
<td>2.61</td>
</tr>
<tr>
<td></td>
<td>Topramezone</td>
<td>1.52</td>
</tr>
<tr>
<td>Mobility in soil</td>
<td>No data available.</td>
<td></td>
</tr>
</tbody>
</table>
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. 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
Dispose of in accordance with all applicable 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 methods/information).

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 in accordance with all applicable regulations.

14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.
Read safety instructions, SDS and emergency procedures before handling.

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 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. A portion of the hazard information required on the pesticide label, including the EPA mandated signal word, is reproduced below. The pesticide label also includes other important information, including restrictions and directions for use.

HAZARD TO HUMANS AND DOMESTIC ANIMALS.
CAUTION! Harmful if absorbed through skin. Harmful if swallowed. Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum using tobacco, or using the toilet..

ENVIRONMENTAL HAZARDS
This product contains the active ingredients atrazine and topramezone. Atrazine can move (seep or leach) through soil and can enter ground and surface water which may be used as drinking water. Atrazine has been found in ground and surface water. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (ground water) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of ground water.

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 1910.1001-1052)
Not regulated.
Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
Classified hazard categories
- Acute toxicity (any route of exposure)
- Respiratory or skin sensitization
- Reproductive toxicity
- Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>% by wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atrazine</td>
<td>1912-24-9</td>
<td>42.6</td>
</tr>
</tbody>
</table>

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

California Proposition 65

WARNING: This product can expose you to Atrazine, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Developmental toxin
Atrazine (CAS 1912-24-9) Listed: July 15, 2016

California Proposition 65 - CRT: Listed date/Female reproductive toxin
Atrazine (CAS 1912-24-9) Listed: July 15, 2016

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>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    Feb-01-2017
Revision date  Sep-04-2018

References

- 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 Toxicology Program
- OSHA: Occupational Safety and Health Agency
- SARA: Superfund Amendments and Reauthorization Act
- TSCA: Toxic Substances Control Act
- DOT: Department of Transportation
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transport Association

Version #  3.0

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

NFPA ratings
- Health: 2
- Flammability: 0
- Instability: 0
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.

AMVAC Chemical Corporation cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user’s responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

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

Revision information

Hazard(s) identification: Hazard statement
Hazard(s) identification: Supplemental information
Toxicological Information: Toxicological Data
Regulatory information: California Proposition 65
Regulatory information: US state regulations
Other information, including date of preparation or last revision: Disclaimer
GHS: Classification