



Safety Data Sheet

Issue Date: 30-Jan-2013

Revision Date: 03-Sept-2015

Version 2

1. IDENTIFICATION

Product Identifier

Product Name Torment

Other means of identification

SDS # ADAMA-010

Registration Number(s) EPA Reg. No. 66222-249

Recommended use of the chemical and restrictions on use

Recommended Use EPA registered pesticide.

Details of the supplier of the safety data sheet

Manufacturer Address

Makhteshim Agan of North America, Inc. (d/b/a ADAMA)
3120 Highwoods Blvd., Suite 100
Raleigh, NC 27604
1-919-256-9300

Emergency Telephone Number

Emergency Telephone (24 hr) For fire, spill and/or leak contact INFOTRAC:
1-800-535-5053 (North America) 1-352-323-3500 (International)
For medical emergencies and health/safety inquiries, contact PROSAR:
1-877-250-9291

2. HAZARDS IDENTIFICATION

This chemical is a product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-EPA registered chemicals. Please see Section 15 for additional EPA information.

Appearance Clear light amber liquid

Physical State Liquid

Odor Mild

Classification

| | |
|---|------------|
| Acute toxicity – Inhalation (Dusts/Mists) | Category 4 |
| Skin corrosion/irritation | Category 1 |
| Serious eye damage/eye irritation | Category 1 |

Signal Word

Danger

Hazard Statements

Harmful if inhaled
Causes severe skin burns and eye damage

**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a poison center or doctor/physician
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a poison center or doctor/physician
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a poison center or doctor/physician
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No | Weight-% |
|------------------------|-------------|----------|
| Fomesafen, sodium salt | 108731-70-0 | 22.05 |
| Imazethapyr Ammonium | 101917-66-2 | 5.38 |
| Proprietary Alkaline | Proprietary | 1.83 |

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

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| General Advice | When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician. |
| Skin Contact | Take off immediately all contaminated clothing. Drench affected area with water for at least 15 minutes. Wash contaminated clothing before reuse. Seek medical attention. |
| Inhalation | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Give oxygen if breathing is difficult. If breathing has stopped, call 911, give artificial respiration. Immediately call a poison center or doctor/physician. |

| | |
|------------------|---|
| Ingestion | Immediately call a poison center or doctor/physician. DO NOT induce vomiting. If conscious, drink 8-10 oz. of water promptly. Never give anything by mouth to an unconscious person. Obtain medical attention. Do not induce vomiting unless directed by medical personnel. |
|------------------|---|

Most important symptoms and effects

| | |
|-----------------|--|
| Symptoms | Causes severe skin burns and eye damage. Corrosive - causes irreversible eye damage. |
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Indication of any immediate medical attention and special treatment needed

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|---------------------------|------------------------|
| Notes to Physician | Treat symptomatically. |
|---------------------------|------------------------|

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Foam. Dry chemical. Foam or dry chemical systems are preferred to prevent environmental damage from excessive water runoff.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Product is not flammable.

Hazardous Combustion Products During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate area of unprotected personnel. Remain upwind of fire to avoid hazardous vapors and decomposition products. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

| | |
|-----------------------------|--|
| Personal Precautions | Wear protective clothing as described in Section 8 of this safety data sheet. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Before responding to a spill or leak of this product, review each section of this SDS and follow the recommendations of each section. |
|-----------------------------|--|

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|----------------------------------|--|
| Environmental Precautions | Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS. |
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Methods and material for containment and cleaning up

| | |
|--------------------------------|--|
| Methods for Containment | Prevent further leakage or spillage if safe to do so. Stop spill at source, dike area of spill to prevent spreading. |
|--------------------------------|--|

| | |
|-----------------------------|--|
| Methods for Clean-Up | For small spills, absorb with sand, clay, or other inert absorbent. Place in appropriate containers for disposal. For large spills: recover free product. Dike for later disposal. Absorb with inert material and then place in suitable container for chemical waste. Wash spill area with a strong detergent and water solution; rinse with water, but minimize water use during clean-up. Do not flush to sewer. Pick up and transfer to properly labeled containers. |
|-----------------------------|--|

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Do not contaminate water, food or feed by storage, disposal or by cleaning equipment. Keep containers closed when not in use. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Observe precautions found on the label. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep out of the reach of children. Store away from incompatible materials. Keep/store only in original container. Store locked up. Store at ambient conditions.

Incompatible Materials

Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|----------------------|------------------------------|--|--|
| Proprietary Alkaline | Ceiling: 2 mg/m ³ | TWA: 2 mg/m ³ (vacated) Ceiling: 2 mg/m ³ | IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³ |

Appropriate engineering controls

Engineering Controls

Please refer to the product label. Use only with adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Use splash goggles or face shield when contact may occur.

Skin and Body Protection

Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Viton or other impervious gloves are required. Long sleeve shirt, trousers, and safety shoes.

Respiratory Protection

Ensure adequate ventilation, especially in confined areas. Wear an appropriate NIOSH/MSHA approved respirator if ventilation is inadequate.

General Hygiene Considerations

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Wash at the end of each work shift and before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated. Discard contaminated leather articles. Launder or discard contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|-----------------------|--------------------------|-----------------------|----------------|
| Physical State | Liquid | Odor | Mild |
| Appearance | Clear light amber liquid | Odor Threshold | Not determined |
| Color | Light amber Clear | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|-------------------------------------|--|-------------------------|
| pH | 7-8 | |
| Melting Point/Freezing Point | Not determined | |
| Boiling Point/Boiling Range | Not determined | |
| Flash Point | > 110 °C / > 230 °F | |
| Evaporation Rate | Not determined | |
| Flammability (Solid, Gas) | Liquid-not applicable | |
| Upper Flammability Limits | Not applicable | |
| Lower Flammability Limit | Not applicable | |
| Vapor Pressure | Not determined | |
| Vapor Density | Not determined | |
| Specific Gravity | Not determined | |
| Water Solubility | Not determined | |
| Solubility in other solvents | Not determined | |
| Partition Coefficient | Not determined | |
| Auto-ignition Temperature | Not determined | |
| Decomposition Temperature | Not determined | |
| Kinematic Viscosity | Not determined | |
| Dynamic Viscosity | 19.1 centipoise @ 25°C; 9.02 centipoise @ 39°C | |
| Explosive Properties | Not determined | |
| Oxidizing Properties | Not determined | |
| Bulk Density | 1.110 g/cm ³ @ 25°C (9.26 lb/gal); 1.100 g/cm ³ @ 39°C (9.18 lb/gal) | |

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

| | |
|---------------------------------|---------------------|
| Hazardous Polymerization | Not known to occur. |
|---------------------------------|---------------------|

Conditions to Avoid

Contact with incompatible materials. Keep out of reach of children. Excessive heat and freezing temperature. See Sec. 7 Handling & Storage.

Incompatible Materials

Strong oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

| | |
|---------------------|---------------------------|
| Eye Contact | Causes severe eye damage. |
| Skin Contact | Causes severe skin burns. |
| Inhalation | Harmful if inhaled. |
| Ingestion | Do not taste or swallow. |

Component Information

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|----------------------|-----------|-------------------------|-----------------|
| Proprietary Alkaline | - | = 1350 mg/kg (Rabbit) | - |

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity Not classifiable as a human carcinogen.

Numerical measures of toxicity

Not determined

Product Information (Numerical measures of toxicity)

Acute Oral LD50 (Rat): 500- 5,000 mg/kg
Acute Dermal LD50 (Rabbit): >5,050 mg/kg
Acute Inhalation LC50 (Rat): 0.5- 2 mg/L (4-hr)
Eye Irritation: Severely irritating.
Dermal Irritation: Slightly irritating.
Dermal Sensitization: Not a skin sensitizer.

12. ECOLOGICAL INFORMATION

Ecotoxicity

For terrestrial uses only. 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. Do not clean equipment or dispose of equipment wash waters in a manner that will contaminate water sources.

Component Information

| Chemical Name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|----------------------|----------------------|---|----------------------------|-----------|
| Proprietary Alkaline | | 45.4: 96 h Oncorhynchus mykiss mg/L LC50 static | | |

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

When released into the soil, this material may leach into the groundwater Highly mobile

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods****Disposal of Wastes**

Do not contaminate water, food, or feed by storage or disposal. END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS. PRODUCT DISPOSAL: Pesticide spray mixture or rinsate that cannot be used should be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

| Chemical Name | California Hazardous Waste Status |
|----------------------|-----------------------------------|
| Proprietary Alkaline | Toxic Corrosive |

14. TRANSPORT INFORMATION**DOT**

Not regulated.

IATA

UN/ID No UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, N.O.S. (Fomesafen, Imazethapyr)
Hazard Class 9
Packing Group III
Marine Pollutant Yes

IMDG

UN/ID No UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, N.O.S. (Fomesafen, Imazethapyr)
Hazard Class 9
Packing Group III
Marine Pollutant Yes

15. REGULATORY INFORMATION**International Inventories**

| Chemical Name | TSCA | DSL | NDSL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS |
|----------------------|---------|-----|------|---------|--------|---------|-------|---------|-------|------|
| Proprietary Alkaline | Present | X | | Present | | Present | X | Present | X | X |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations**CERCLA**

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|----------------------|--------------------------|----------------|---|
| Proprietary Alkaline | 1000 lb | | RQ 1000 lb final RQ RQ 454 kg final RQ |

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | Yes |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

SARA 313

Not determined

CWA (Clean Water Act)

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|----------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Proprietary Alkaline | 1000 lb | | | X |

US State Regulations**U.S. State Right-to-Know Regulations**

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|----------------------|------------|---------------|--------------|
| Proprietary Alkaline | X | X | X |

EPA Pesticide Registration Number 66222-249**EPA Statement**

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:

EPA Pesticide Label

Signal Word: Danger

This product contains fomesafen which has been determined to cause tumors in laboratory animals (mice). Risks can be reduced by closely following use directions and precautions and by wearing the protective clothing specified elsewhere on this label.

Causes irreversible eye damage. Harmful if inhaled. Harmful if swallowed. Do not get in eyes or on clothing. Do not breathe spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Wear: Goggles or face shield, long-sleeved shirt and long pants, socks, shoes,

Difference between SDS and EPA pesticide label

| | EPA | OSHA |
|-----------------------------------|--------------------------------|--------------------------|
| Signal Word | Danger | Danger |
| Acute toxicity - Oral | Harmful if swallowed | N/A |
| Acute toxicity - Inhalation | Harmful if inhaled | Harmful if inhaled |
| Skin corrosion/irritation | N/A | Causes severe skin burns |
| Serious eye damage/eye irritation | Causes irreversible eye damage | Causes severe eye damage |

| |
|------------------------------|
| 16. OTHER INFORMATION |
|------------------------------|

| | | | | |
|--------------------|-----------------------|---------------------|-------------------------|----------------------------|
| <u>NFPA</u> | Health Hazards | Flammability | Instability | Special Hazards |
| | 3 | 1 | 0 | None |
| <u>HMIS</u> | Health Hazards | Flammability | Physical Hazards | Personal Protection |
| | 3 | 1 | 0 | See section 8 |

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet