# 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Dicamba Solution
- **Article number:** HB-160-1
- **Application of the substance / the mixture** Laboratory chemicals

- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** ULTRA Scientific, inc.
  250 Smith Street
  North Kingstown, RI  02852
  USA

- **Information department:**
  Telephone: (401) 294-9400
  Fax: (401) 295-2300
  E-mail: regulatory@ultrasci.com

- **Emergency telephone number:**
  US: (800) 424-9300
  Outside US: (703) 527-3887

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# 2 Hazard(s) identification

- **Classification of the substance or mixture**
  - **GHS02 Flame**
  Flam. Liq. 2  H225  Highly flammable liquid and vapor.

  - **GHS06 Skull and crossbones**
  Acute Tox. 3  H331  Toxic if inhaled.

  - **GHS08 Health hazard**
  STOT SE 1  H370  Causes damage to organs.

- **Label elements**
  - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**

  - **GHS02**
  - **GHS06**
  - **GHS08**

- **Signal word** Danger

- **Hazard-determining components of labeling:**
  - methanol

- **Hazard statements**
  - Highly flammable liquid and vapor.
  - Toxic if inhaled.

(Contd. on page 2)
Causes damage to organs.

- **Precautionary statements**
  - Keep away from heat/sparks/open flames/hot surfaces. No smoking.
  - Use explosion-proof electrical/ventilating/lighting/equipment.
  - Do not breathe dust/fume/gas/mist/vapors/spray.
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - Ground/bond container and receiving equipment.
  - Use only non-sparking tools.
  - Take precautionary measures against static discharge.
  - Wash thoroughly after handling.
  - Do not eat, drink or smoke when using this product.
  - Use only outdoors or in a well-ventilated area.
  - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - Specific treatment (see on this label).
  - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - In case of fire: Use for extinction: CO2, powder or water spray.
  - Store locked up.
  - Store in a well-ventilated place. Keep container tightly closed.
  - Store in a well-ventilated place. Keep cool.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 3
    - Fire = 3
    - Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**
    - Health = *3
    - Fire = 3
    - Reactivity = 0

- **Other hazards**
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**
  - 67-56-1 methanol 99.987%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**
  - Immediately remove any clothing soiled by the product.
  - Remove breathing apparatus only after contaminated clothing have been completely removed.
  - In case of irregular breathing or respiratory arrest provide artificial respiration.
· **After inhalation:**
  Supply fresh air or oxygen; call for doctor.
  In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:** If symptoms persist consult doctor.
· **Information for doctor:**
  No further relevant information available.
· **Most important symptoms and effects, both acute and delayed**
  No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
  No further relevant information available.

## 5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
  CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **Special hazards arising from the substance or mixture**
  No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
  Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:**
  Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
· **Reference to other sections**
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.
· **Protective Action Criteria for Chemicals**

<table>
<thead>
<tr>
<th>PAC-1:</th>
<th>530 ppm</th>
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<tbody>
<tr>
<td>67-56-1 methanol</td>
<td>530 ppm</td>
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<table>
<thead>
<tr>
<th>PAC-2:</th>
<th>2,100 ppm</th>
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<tbody>
<tr>
<td>67-56-1 methanol</td>
<td>2,100 ppm</td>
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<table>
<thead>
<tr>
<th>PAC-3:</th>
<th>7200* ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1 methanol</td>
<td>7200* ppm</td>
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</tbody>
</table>

## 7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
  Ensure good ventilation/exhaustion at the workplace.
  Open and handle receptacle with care.
8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.

- Control parameters
  - Components with limit values that require monitoring at the workplace:
    - 67-56-1 methanol
      - PEL Long-term value: 260 mg/m³, 200 ppm
      - REL Short-term value: 325 mg/m³, 250 ppm
        - Long-term value: 260 mg/m³, 200 ppm
      - Skin
        - TLV Short-term value: 328 mg/m³, 250 ppm
        - Long-term value: 262 mg/m³, 200 ppm
      - Skin; BEI

- Ingredients with biological limit values:
  - 67-56-1 methanol
    - BEI 15 mg/L
      - Medium: urine
      - Time: end of shift
      - Parameter: Methanol (background, nonspecific)

- Additional information: The lists that were valid during the creation were used as basis.

- Exposure controls
- Personal protective equipment:
  - General protective and hygienic measures:
    - Keep away from foodstuffs, beverages and feed.
    - Immediately remove all soiled and contaminated clothing.
    - Wash hands before breaks and at the end of work.
    - Store protective clothing separately.
  - Breathing equipment:
    - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
  - Protection of hands:
    - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
    - Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
    - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Trade name: Dicamba Solution

- **Material of gloves**
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**
  Tightly sealed goggles

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - **Form:** Fluid
      - **Color:** Colorless
    - **Odor:** Alcohol-like
    - **Odor threshold:** Not determined.
    - **pH-value:** Not determined.

- **Change in condition**
  - **Melting point/Melting range:** -98 °C (-144 °F)
  - **Boiling point/Boiling range:** 64 °C (147 °F)

- **Flash point:** 9 °C (48 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 455 °C (851 °F)

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**
  - **Lower:** 5.5 Vol %
  - **Upper:** 44 Vol %

- **Vapor pressure at 20 °C (68 °F):** 100 hPa (75 mm Hg)

- **Density at 20 °C (68 °F):** 0.8 g/cm³ (6.676 lbs/gal)

- **Relative density:** Not determined.

- **Vapor density:** Not determined.

- **Evaporation rate:** Not determined.

- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.

- **Partition coefficient (n-octanol/water):** Not determined.
Trade name: Dicamba Solution

- **Viscosity:**
  - Dynamic: Not determined.
  - Kinematic: Not determined.

- **Solvent content:**
  - Organic solvents: 100.0 %
  - VOC content: 100.0 %
    - 999.9 g/l / 8.34 lb/gl

- **Other information**
  - No further relevant information available.

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**10 Stability and reactivity**

- **Reactivity**
  - No further relevant information available.

- **Chemical stability**
  - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
  - **Possibility of hazardous reactions:** No dangerous reactions known.
  - **Conditions to avoid:** No further relevant information available.
  - **Incompatible materials:** No further relevant information available.
  - **Hazardous decomposition products:** No dangerous decomposition products known.

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**11 Toxicological information**

- **Information on toxicological effects**

  - **Acute toxicity:**
    - **ATE (Acute Toxicity Estimates):**
      - Inhalative: LC50/4 h 3 mg/l
    - 67-56-1 methanol
      - Oral: LD50 5628 mg/kg (rat)
      - Dermal: LD50 15800 mg/kg (rabbit)

    - **Primary irritant effect:**
      - **on the skin:** No irritant effect.
      - **on the eye:** No irritating effect.

    - **Sensitization:** No sensitizing effects known.

    - **Additional toxicological information:**
      - The product shows the following dangers according to internally approved calculation methods for preparations: Toxic

    - **Carcinogenic categories**
      - **IARC (International Agency for Research on Cancer):** None of the ingredients is listed.
      - **NTP (National Toxicology Program):** None of the ingredients is listed.
      - **OSHA-Ca (Occupational Safety & Health Administration):** None of the ingredients is listed.

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Trade name: Dicamba Solution

12 Ecological information

- Toxicity
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability: No further relevant information available.
- Behavior in environmental systems:
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.
- Additional ecological information:
- General notes:
  Water hazard class 1 (Self-assessment): slightly hazardous for water
  Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
- Recommendation:
  Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
- DOT, IMDG, IATA: UN1230
- UN proper shipping name
- DOT
- IMDG, IATA: Methanol mixture
- IMDG
- Class: 3 Flammable liquids
- Label: 3, 6.1

(Contd. on page 8)
Trade name: Dicamba Solution

- **Label**
  - 3/6.1
- **IATA**
- **Class**
  - 3 Flammable liquids
- **Label**
  - 3 (6.1)

**Packing group**
- **DOT, IMDG, IATA**
  - II
- **Environmental hazards:**
  - Not applicable.
- **Special precautions for user**
  - Warning: Flammable liquids
- **Danger code (Kemler):**
  - 336
- **EMS Number:**
  - F-E,S-D
- **Stowage Category**
  - B
- **Stowage Code**
  - SW2 Clear of living quarters.

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
- Not applicable.

**Transport/Additional information:**
- **DOT**
  - **Quantity limitations**
    - On passenger aircraft/rail: 1 L
    - On cargo aircraft only: 60 L
- **IMDG**
  - **Limited quantities (LQ)**
    - 1L
  - **Excepted quantities (EQ)**
    - Code: E2
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 500 ml

**UN "Model Regulation":**
- UN 1230 METHANOL MIXTURE, 3 (6.1), II

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**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Sara**
  - **Section 355 (extremely hazardous substances):**
    - None of the ingredients is listed.
  - **Section 313 (Specific toxic chemical listings):**
    - All ingredients are listed.
  - **TSCA (Toxic Substances Control Act):**
    - 67-56-1 methanol
  - **Proposition 65**
    - **Chemicals known to cause cancer:**
      - None of the ingredients is listed.
    - **Chemicals known to cause reproductive toxicity for females:**
      - None of the ingredients is listed.
· Chemicals known to cause reproductive toxicity for males:
  None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:
  67-56-1 methanol

· Carcinogenic categories
  · EPA (Environmental Protection Agency)
    None of the ingredients is listed.
  · TLV (Threshold Limit Value established by ACGIH)
    None of the ingredients is listed.
  · NIOSH-Ca (National Institute for Occupational Safety and Health)
    None of the ingredients is listed.

· GHS label elements
  The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms
  GHS02  GHS06  GHS08

· Signal word
  Danger

· Hazard-determining components of labeling:
  methanol

· Hazard statements
  Highly flammable liquid and vapor.
  Toxic if inhaled.
  Causes damage to organs.

· Precautionary statements
  Keep away from heat/sparks/open flames/hot surfaces. No smoking.
  Use explosion-proof electrical/ventilating/lighting/equipment.
  Do not breathe dust/fume/gas/mist/vapors/spray.
  Wear protective gloves/protective clothing/eye protection/face protection.
  Ground/bond container and receiving equipment.
  Use only non-sparking tools.
  Take precautionary measures against static discharge.
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Use only outdoors or in a well-ventilated area.
  If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  Specific treatment (see on this label).
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  In case of fire: Use for extinction: CO2, powder or water spray.
  Store locked up.
  Store in a well-ventilated place. Keep container tightly closed.
  Store in a well-ventilated place. Keep cool.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

· Chemical safety assessment:
  A Chemical Safety Assessment has not been carried out.

(Contd. on page 10)
16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Document Control / Regulatory
- **Contact:** regulatory@ultrasci.com
- **Date of preparation / last revision:** 01/11/2017 / -
- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - VOC: Volatile Organic Compounds (USA, EU)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety & Health
  - TLV: Threshold Limit Value
  - PEL: Permissible Exposure Limit
  - REL: Recommended Exposure Limit
  - BEI: Biological Exposure Limit
  - Flam. Liq. 2: Flammable liquids – Category 2
  - Acute Tox. 3: Acute toxicity – Category 3
  - STOT SE 1: Specific target organ toxicity (single exposure) – Category 1