Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 07/19/2011 Reviewed on 07/19/2011

1 Identification of substance

- Product details
- Trade name: ACTICIDE DBU 20
- Application of the substance / the preparation Biocide for industrial and/or commercial use.
- Supplier:
  Thor Specialties, Inc.
  56 Quarry Road
  Trumbull, CT 06611
  USA
  Phone: +1 203 3656530
  Fax: +1 203 3656537
- Competent person responsible for the Material Safety Data Sheet:
  Regulatory Affairs Department: Lynn P. Tordo, E-Mail: ltordo@thorsp.com
- Emergency information:
  Emergency phone number (worldwide 24 hrs service): +49 6 21 60-4 33 33
  USA: In case of emergency call CHEMTREC 24 Hours at 800/424-9300

2 Composition/Data on components

- Chemical characterization
- Description: Microbiocide based on 2,2-Di-Bromo-3-Nitrilo-Propionamide (DBNPA).

<table>
<thead>
<tr>
<th>Dangerous components:</th>
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<tbody>
<tr>
<td>10222-01-2 2,2-Di-Bromo-3-Nitrilo-Propionamide</td>
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3 Hazards identification

- Hazard description:
  Corrosive

- Information pertaining to particular dangers for man and environment:
  Harmful by inhalation, in contact with skin and if swallowed.
  Causes burns.
  May cause sensitization by skin contact.
- NFPA ratings (scale 0 - 4)
  Health = 1
  Fire = 1
  Reactivity = 0
- HMIS-ratings (scale 0 - 4)
  HEALTH: Health = 2
  FIRE: Fire = 1
  REACTIVITY: Reactivity = 0

(Contd. on page 2)
4 First aid measures

· General information:
  In case of emergency call toll free (800) 424-9300. Have the product container or label with you when you call a Poison Control Center or doctor or going for treatment.

· If inhaled:
  Move person to fresh air.
  If person is not breathing, call 911 or an ambulance, then give artificial respiraton, preferably mouth-to-mouth if possible.
  Call a Poison Control Center or doctor for treatment advice.

· If on skin or clothing:
  Take off contaminated clothing.
  Rinse skin immediately with plenty of water for 15 to 20 minutes.
  If skin irritation occurs, get medical attention.
  Call a Poison Control Center or a doctor for treatment advice.

· If in eyes:
  Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a Poison Control Center or doctor for treatment advice.

· If swallowed:
  Have person sip a glass of water if able to swallow.
  Do not induce vomiting unless told to do so by the Poison Control Center or doctor.
  Call a Poison Control Center or doctor immediately for treatment advice.

5 Fire fighting measures

· Suitable extinguishing agents: Water spray jet, extinguishing powder, CO2, foam.

· For safety reasons unsuitable extinguishing agents: None

· Special hazards caused by the material, its products of combustion or resulting gases:
  In case of fire, toxic incineration products may be released such as:
  Nitrogen oxides (NOx)
  Carbon monoxide (CO)
  Bromine compounds such as HBr, Br2

· Protective equipment: Wear protective clothing and self-contained respiratory protective device.

· Additional information
  Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures

· Person-related safety precautions:
  Wear protective clothing.
  Keep unprotected persons away.
  When selecting the protective suit it has to be paid attention to a complete and safe protection of skin and mucous membrane. Impermeable protective clothes, protective boots made of neoprene, complete face protection, nitrile-rubber-gloves with long tops.

· Measures for environmental protection:
  Prevent from spreading (e. g. by enclosing with a ring of chemical absorbent).
  As the product is hazardous for the aquatic environment, it must be prevented from reaching surface water.
  Inform respective authorities in case of seepage into water course or sewage system.
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- Measures for cleaning/collecting:
  Collect large amounts in suitable container. Cover the rest with absorbent, mix intensively and collect mechanically.
  Suitable binder: multi-purpose absorbent.
  Dispose of contaminated binding material in accordance with local, state and federal regulations.
  Clean the affected area carefully; suitable cleaners are:
  Weak alkaline solution
  Ensure adequate ventilation.

7 Handling and storage

- Handling:
  - Information for safe handling:
    Ensure good ventilation/exhaustion at the workplace.
    Handle product in closed systems preferably.
    Ensure that suitable extractors are available on processing machines
    Avoid splashes or spray.
  - Information about protection against explosions and fires: No special measures required.

- Storage:
  - Requirements to be met by storerooms and receptacles:
    Store only in unopened original receptacles.
    Information about suitable materials for vessels and piping can be requested from our technical department (Tel.: 203-365-6530).
  - Information about storage in one common storage facility: Store away from foodstuffs.
  - Further information about storage conditions:
    Protect from heat and direct sunlight.
    Store receptacle in a well ventilated area.

8 Exposure controls and personal protection

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

- Components with limit values that require monitoring at the workplace:
  The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

- Personal protective equipment:
  - General protective and hygienic measures:
    Avoid contact with the eyes and skin.
    Wash hands thoroughly before breaks and at the end of work.

- Breathing equipment:
  Use breathing protection with high concentrations for example when exceeding the air limiting value.
  Filter US-N95.

- Protection of hands:
  Chemical protective gloves according to DIN EN 374 with CE-labelling.

Before use check protective gloves for any damages like holes, cuts or tears.
Replace contaminated gloves to prevent unintentional contamination.

- **Material of gloves**: Nitrile rubber, NBR
- **Not suitable are gloves made of the following materials**: Leather gloves

- **Eye protection**: Goggles or face shield

- **Body protection**: Protective work clothing

### 9 Physical and chemical properties
#### General Information
- **Form**: Liquid
- **Color**: Colorless to amber Clear
- **Odor**: Specific type

- **Change in condition**
  - **Melting point/Melting range**: -25 to -20°C
  - **Boiling point/Boiling range**: Method not applicable

- **Flash point**: > 61°C (> 142°F)
- **Ignition temperature**: 420°C (788°F)
- **Auto igniting**: Product is not selfigniting.
- **Danger of explosion**: Product does not present an explosion hazard.

- **Vapor pressure at 20°C (68°F)**: 23 hPa (17 mm Hg)
- **Density at 20°C (68°F)**: 1.16-1.21 g/cm³
- **Solubility in / Miscibility with Water**: Fully miscible.
- **pH-value at 20°C (68°F)**: 2.0-5.0

### 10 Stability and reactivity
- **Thermal decomposition / conditions to be avoided**: No decomposition if used and stored according to specifications. Protect against temperatures > 35 °C.
- **Minimum shelf life**: 6 months from production date.

- **Materials to be avoided**: Alkalis Oxidizing agents Reducing agents Nucleophils

- **Dangerous reactions**: Corrodes aluminium.
11 Toxicological information

- **Acute toxicity:**
  - LD/LC50 values that are relevant for classification:
    - 10222-01-2 2,2-Di-Bromo-3-Nitrilo-Propionamide
      - Oral LD50 189 mg/kg (rat)
      - Dermal LD50 > 2000 mg/kg (rabbit)
      - Inhalative LC50 / 4 h 0.24-0.31 mg/l (rat)
  - **Primary irritant effect:**
    - on the skin: Caustic effect on skin and mucous membranes.
    - on the eye: Strong caustic effect.
  - **Sensitization:** Sensitization possible through skin contact.
  - **Subacute to chronic toxicity:**

12 Ecological information

- **Information about elimination (persistence and degradability):**
- **Degree of elimination:**
  - Biodegradability: The components are readily biodegradable.
- **Behavior in environmental systems:**
- **Mobility and bioaccumulation potential:**
  - Low potential to bioaccumulate
  - log Kow 0.79; DBNPA
  - Bio concentration factor (BCF): 13; DBNPA
- **Ecotoxic effects:**
  - **Acquatic toxicity:**
    - 10222-01-2 2,2-Di-Bromo-3-Nitrilo-Propionamide
      - EC50 / 48 h 0.7 mg/l (Daphnia)
      - IC50 / 72 h 0.3 mg/l (Selenastrum capricornutum)
      - LC50 / 96 h 0.7 mg/l (rainbow trout)
  - **Behavior in sewage processing plants:**
    - 10222-01-2 2,2-Di-Bromo-3-Nitrilo-Propionamide
      - EC50 3.1 mg/l (Activated Sludge)
  - **Remark:** Depending on concentration, toxic effects on activated sludge organisms are possible.
  - **Additional ecological information:**
    - AOX-indication: Can affect the AOX-value of the effluent water.
    - According to the formulation contains the following heavy metals and compounds from the EU guideline NO. 2006/11 EC:
      - None
13 Disposal considerations

- **General notes:**
  The product contains materials that are harmful to the environment.
  Toxic for aquatic organisms
  Avoid transfer into the environment.

- **Product:**
  - **Recommendation:**
    Dispose in accordance with applicable Federal and Local regulations.
    Biocide or Pesticide wastes are acutely hazardous. Improper disposal or excess product or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Biocide/Pesticide or Environmental Control Agency, or the Hazardous Waste representative at your nearest EPA Regulation Office for guidance.

- **Uncleaned packagings:**
  - **Recommendation:** In accordance with label and federal and local regulations.

14 Transport information

- **US DOT:**
  Not regulated for non-bulk ground shipments.

- **Bulk shipments:**
  UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
  (2,2-dibromo-3-nitrilopropionamide), 9, PG-III. Marking: MARINE POLLUTANT

15 Regulations

- **EPA-Registration number:** 8622-20-67071
- **SARA**
  - **Section 302 (extremely hazardous substances):**
    None of the ingredient is listed.
  - **Section 313 (Specific toxic chemical listings):**
    On October 27, 1995, EPA published an administrative stay of the EPCRA Section 313 reporting requirements for below mentioned chemical. Therefore, no TRI reports are required.
    10222-01-2 2,2-Di-Bromo-3-Nitrilo-Propionamide

- **TSCA (Toxic Substances Control Act):**
  All ingredients are listed.

- **Canadian Domestic Substances List (DSL/NDSL):**
  All ingredients are listed.

- **Carcinogenicity category:**
  None of the ingredients is listed.
Trade name: ACTICIDE DBU 20

- **Product related hazard information:**
  The product has been classified and marked in accordance with directives on hazardous materials.

- **Hazard symbols:**
  ![Corrosive]

- **Risk phrases:**
  Harmful by inhalation, in contact with skin and if swallowed.  
  Causes burns.  
  May cause sensitization by skin contact.

- **Safety phrases:**
  Avoid contact with skin.  
  In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
  Wear suitable protective clothing, gloves and eye/face protection.  
  This material and its container must be disposed of in accordance with federal (RCRA), state and local regulations.

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**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.

- **Training hints**
  US: Use only in accordance with EPA-approved label.  
  Canada: Use only in accordance with PMRA-approved label.  
  Further information under the regulations of use can be taken from the Product Data Sheet and label.

- **Contact for technical information**: Biocides: info@ThorSp.com

* Data compared to the previous version altered.