1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL NAME: Foray® 48B
EPA Reg.No.: 73049-427
Code Number: 27309, 76822
List Number: 60181, 60182
PMRA Reg. No.: 24977

SYNONYMS: VBC-60013

MANUFACTURER: Valent BioSciences Corporation
870 Technology Way, Suite 100
Libertyville, Illinois 60048

EMERGENCY TELEPHONE NUMBERS
Emergency Health or Spill:
Outside the United States: 651-632-6184
Within the United States: 877-315-9819

2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME: Bacillus thuringiensis, var. kurstaki
CONCENTRATION: 12.65%
CAS NUMBER: 68038-71-1
OSHA-PEL 8HR TWA: N/L
STEL: N/L
CEILING: N/L
ACGIH-TLV 8HR TWA: N/L
STEL: N/L
CEILING: N/L
OTHER 8HR TWA: N/A
LIMITS STEL: N/A
CEILING: N/A

INGREDIENT NAME: Inert/Other ingredients – Proprietary Information
CONCENTRATION: 87.35%
CAS NUMBER: N/A
OSHA-PEL 8HR TWA: N/L
STEL: N/L
CEILING: N/L
ACGIH-TLV 8HR TWA: N/L
STEL: N/L
CEILING: N/L
OTHER 8HR TWA: N/A
LIMITS STEL: N/A
CEILING: N/A
3. HAZARDS INFORMATION

EMERGENCY OVERVIEW: Product is non-toxic by ingestion, skin contact, or inhalation. May cause mild eye irritation.

ROUTE(S) OF ENTRY: Skin: No
Inhalation: No
Ingestion: No

INGESTION RATING: None
SKIN ABSORPTION RATING: N/D
INHALATION RATING: None
CORROSIVENESS RATING: N/D
SKIN CONTACT RATING: None
SKIN SENSITIZATION RATING: None
EYE CONTACT RATING: Mild irritant
TARGET ORGANS: Eyes

CARCINOGENICITY RATING: NTP: N/L IARC: N/L OSHA: N/L ACGIH: N/L None

SIGNS AND SYMPTOMS: Direct contact with eyes may cause mild irritation.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/D Pre-existing eye lesions

4. FIRST AID MEASURES

EYES: Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

SKIN: Remove from source of exposure. Flush with copious amounts of water. If irritation or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

INGESTION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

INHALATION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.
5. FIRE FIGHTING PROCEDURES

FLASH POINT: N/D
FLASH POINT METHOD: N/A
LOWER EXPLOSIVE LIMIT(%): N/A
UPPER EXPLOSIVE LIMIT(%): N/A
AUTOIGNITION TEMPERATURE: N/A

FIRE & EXPLOSION HAZARDS: Non-flammable and no explosive properties.

EXTINGUISHING MEDIA: Use appropriate media for underlying cause of fire.

FIRE FIGHTING INSTRUCTIONS: Wear protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

SPILL OR RELEASE PROCEDURES: Recover product and place in an appropriate container for disposal. Ventilate and wash the spill area.

7. HANDLING AND STORAGE

HANDLING: The usual precautions for handling chemicals should be observed.

STORAGE: Store product in tightly closed containers in cool and dry place when not in use.

SPECIAL PRECAUTIONS: N/D

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use local exhaust

RESPIRATORY PROTECTION: Not usually required. If necessary, use a MSHA?NIOSH approved (or equivalent) respirator with dust-mist/organic vapor cartridge combination.

SKIN PROTECTION: Butyl or nitrile rubber gloves, clothing to minimize skin contact.

EYE PROTECTION: Safety glasses or goggles.

OTHER PROTECTION: Wash thoroughly with soap and water after handling.
9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE: Light brown opaque liquid
    ODOR: Yeast-like
    BOILING POINT: Approx. 100°C (212°F)
    MELTING/FREEZING POINT: Approx. 0° (32°)
    VAPOR PRESSURE (mm Hg): N/D
    VAPOR DENSITY (Air=1): >1
    EVAPORATION RATE: <1
    BULK DENSITY: 1.0-1.2 g/cm³
    SPECIFIC GRAVITY: N/D
    SOLUBILITY: Miscible in water
        pH: 4.2-4.8 as a 10% solution in water
    VISCOSITY: 561 cp at 25°C

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable. No oxidizing or reducing properties.

INCOMPATIBILITIES: N/D

HAZARDOUS DECOMPOSITION PRODUCTS: N/D

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
    ORAL LD50: > 5,000 mg/kg (rat)
    DERMAL LD50: > 5,000 mg/kg (rat)
    INHALATION LC50: > 2.14 mg/L (rat)

    CORROSIVENESS: N/D.

DERMAL IRRITATION: Slightly irritating to the rabbit skin. Effects were reversible within 48 hours.

OCULAR IRRITATION: Mild irritant to the rabbit eye. Effects were reversible within 7 days.

DERMAL SENSITIZATION: Not a contact sensitizer in the Guina pig

SPECIAL TARGET ORGAN EFFECTS: N/D

CARCINOGENICITY INFORMATION: N/D. None of the components are classified as carcinogens.
12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: N/D

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS: Dispose of product in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
HAZARD CLASS: N/A
UN NUMBER: N/A
PACKING GROUP: N/A
REPORTABLE QUANTITY: N/A

IATA/ICAO STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
HAZARD CLASS: N/A
UN NUMBER: N/A
PACKING GROUP: N/A
REPORTABLE QUANTITY: N/A

IMO STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
HAZARD CLASS: N/A
UN NUMBER: N/A
PACKING GROUP: N/A
REPORTABLE QUANTITY: N/A
FLASH POINT: N/A

15. REGULATORY INFORMATION

TSCA STATUS: Exempt
CERCLA STATUS: N/D
SARA STATUS: N/D

RCRA STATUS: N/D
PROP 65 (CA): N/D
16. OTHER INFORMATION

REASON FOR ISSUE: Reviewed MSDS.
APPROVAL DATE: 2/6/14
MSDS Number: BIO-0315
SUPERSEDES DATE: 10/17/11
EPA Reg. No.: 73049-427

LEGEND: N/A = Not Applicable
N/D = Not Determined
N/L = Not Listed
L = Listed
C = Ceiling
S = Short-term
® = Registered Trademark of Valent BioSciences
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