

河北捷润科技有限公司
Hebei JRain Technology Co., Ltd.

Date: May.19th, 2025

MATERIAL SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Company : HEBEI JRAIN TECHNOLOGY CO.,LTD.
No. 66 XIANGTAI ROAD, YUHUA DISTRICT, SHIJIAZHUANG CITY, HEBEI
PROVINCE,CHINA

Telephone : (0086) 311-80680379

Fax : (0086) 311-80680380

Product Name: Abamectin 92% Technical

Chemical Name (IUPAC):

(10*E*,14*E*,16*E*)-(1*R*,4*S*,5'*S*,6*S*,6'*R*,8*R*,12*S*,13*S*,20*R*,21*R*,24*S*)-6'-[(*S*)-*sec*-butyl]-21,24-dihydroxy-5',11,13,22-tetramethyl-2-oxo-3,7,19-trioxatetracyclo[15.6.1.1_{4,8}.0_{20,24}]pentacos-10,14,16,22-tetraene-6-spiro-2'-(5',6'-dihydro-2'*H*-pyran)-12-yl
2,6-dideoxy-4-*O*-(2,6-dideoxy-3-*O*-methyl- α -L-*arabino*-hexopyranosyl)-3-*O*-methyl- α -L-*arabino*-hexopyranoside (i)

mixture with
(10*E*,14*E*,16*E*)-(1*R*,4*S*,5'*S*,6*S*,6'*R*,8*R*,12*S*,13*S*,20*R*,21*R*,24*S*)-21,24-dihydroxy-6'-isopropyl-5',11,13,22-tetramethyl-2-oxo-3,7,19-trioxatetracyclo[15.6.1.1_{4,8}.0_{20,24}]pentacos-10,14,16,22-tetraene-6-spiro-2'-(5',6'-dihydro-2'*H*-pyran)-12-yl
2,6-dideoxy-4-*O*-(2,6-dideoxy-3-*O*-methyl- α -L-*arabino*-hexopyranosyl)-3-*O*-methyl- α -L-*arabino*-hexopyranoside (ii) (4:1)

Chemical Formula:

Avermectin B1a: C₄₈H₇₂O₁₄ (i)

Avermectin B1b: C₄₇H₇₀O₁₄ (ii)

CAS/EPA/EU Registry Number:

71751-41-2 (i+ii) (CAS); 495 (CIPAC)

Section 2. Composition/Information on Ingredients

Component	CAS Number	Content (%)
Abamectin	71751-41-2	Min. 92%
Inerts	Not applicable	Max. 8%

Section 3. Hazards Identification

WARNING! Potentially fetal if swallowed or inhaled. Avoid breath dust. May cause irritation to skin. Avoid get in eyes, skin or clothing. Keep out of reach of children. Keep away from food, drink and animal feed. Not teratogenic, mutagenic or carcinogenic.

河北捷润科技有限公司

Hebei JRain Technology Co., Ltd.

Section 4. First Aid Measures

Eye Contact: Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.

Skin Contact: Remove contaminated clothing, jewelry, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.

Inhalation: Remove from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.

Ingestion: Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

Note to Physician: For ingestion, consider gastric lavage.

Section 5. Fire Fighting Measures

Fire and Explosion Hazard: Negligible fire and explosion hazard.

Firefighting Media: Foam, dry chemical or water spray to extinguish fire.

Firefighting Precaution: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Keep unnecessary people away. Use as little water as possible. Dike area of fire to prevent material run-off. Decontaminate emergency personnel with soap and water before leaving the fire area. Avoid breathing dusts, vapors and fumes from burning materials. Control run-off water.

Section 6. Accidental Release Measures

In case materials are released, use suitable protective equipment (Section 8) and follow all fire prevention procedures (Section 5). Keep unnecessary persons away. Isolate hazard area and deny entry. Move containers away from spill to a safe area. Shovel or sweep dry material or absorb spills with suitable absorbing material and place in a sealed container for disposal.

Section 7. Handling and Storage

Handling Precautions: This product may be fatal if swallowed; poisonous if inhaled. Avoid contact with eyes, skin or clothing. Do not breathe dust. Wash thoroughly with soap and water after handling.

Storage Precautions: Store in an airtight and watertight container in a cool, dry, well ventilated location (recommended storage temperature: 0~5C). Do not store near heat or flame. Do not reuse empty container.

河北捷润科技有限公司

Hebei JRain Technology Co., Ltd.

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits: Not available.

Engineering Controls: Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust or process enclosure ventilation system.

Eye/Face: To protect against accidental eye contact, goggles/face-shield should be worn.

Skin Protection: Rubber gloves should be worn. Wash thoroughly with soap and water after handling.

Respiratory Protection: Ensure good ventilation. For maximum protection, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus.

Section 9. Physical and Chemical Properties

Appearance	White to pale yellow crystalline powder
Odor	Characteristic odor
Density	1.18 (22°C)
Melting Point	161.8°C
Boiling Point	Decomposes before boiling
Vapor Pressure	<3.710 ⁻³ mPa (25°C)
Solubility	In water 0.02 mg/l (20°C). In toluene 23, acetone 72, ethyl acetate 160, octanol 83 (all in g/l, 20 °C).

Section 10. Stability and Reactivity

Stability: Stable to hydrolysis in aqueous solutions at pH 5, 7, and 9 (25 °C). Sensitive to stronger acid and base. U.V. irradiation causes conversion first to the 8,9-Z-isomer, then to unidentified decomposition products.

Incompatibilities: Avoid mixed with oxidizing materials.

Hazard Decomposition: Thermal decomposition product including carbon monoxide and carbon dioxide.

Hazard Polymerization: Will not occur.

Section 11. Toxicological Information

Acute Oral Toxicity: LD₅₀ for rats 50-300 mg/kg

Acute Dermal Toxicity: LD₅₀ for rabbits >2000 mg/kg.

Acute Inhalation Toxicity: LC₅₀ 0.2mg/l in rats.

Skin Irritation: Non-irritating to skin of rabbits.

Eye Irritation: Non-irritant to eyes of rabbits.

NOEL: For rats (2 generation reproduction study) 0.12 mg/kg b.w. daily.

河北捷润科技有限公司

Hebei JRain Technology Co., Ltd.

ADI: (JMPR) 0.002 mg/kg b.w. [1997] (for sum of abamectin and 8,9-Z- isomer); 0.001 mg/kg b.w. [1995] (for residues not containing -8,9-isomer).

Toxicity Class: II(WHO), Moderately hazardous.

Section 12. Ecological Information

Birds Acute oral LD₅₀ for mallard ducks 84.6, bobwhite quail >2000 mg/kg

Fish LC₅₀ (96 h) for rainbow trout 3.2, bluegill sunfish 9.6 g/l.

Bees Toxic to bees.

Environmental Fate:

Animals Rapidly eliminated (80-100% in 96 h), mainly via faeces; urinary excretion was 0.5-1.4%.

Plants Degradation/metabolism in each of three different plants is similar and occurs predominantly by photolysis on the plant surfaces. The definition of the residues is thus expressed as the combined residues of avermectin B1 and its 8,9-Z-avermectin B1 photoisomer.

Soil/Environment

Binds tightly to soil, with rapid degradation by soil microorganisms. No bioaccumulation.

Section 13. Disposal Considerations

Disposal of product would be treated, stored, transported, and disposed of according to the local waste regulation authority. Do not flush to surface water or sanitary sewer system.

Section 14. Transport Information

IMO Classification	
Proper Shipping Name: Pesticide, Solid, Toxic, N. O. S.	
Class:	6.1
UN No.:	2811
Packaging Group	II

Section 15. Regulator Information

European/International Regulation:

Hazard Symbols:

T Toxic

Risk Phrases:

R 26/28 Very toxic by inhalation and if swallowed.

R 5053 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

河北捷润科技有限公司

Hebei JRain Technology Co., Ltd.

Safety Phrases:

- S 1/2 Keep locked-up and out of reach of children
S 4 Keep away from living quarters
S 13 Keep away from food, drink and animal feeding
stuffs
S 20 When using do not eat or drink.
S 22 Do not breathe dust.
S 24 Avoid contact with skin
S 29 Do not empty into drains
S 35 This material and its container must be disposed of
in a safe way.
S 45 In case of accident or if you feel unwell, seek
medical advice immediately (show the label where possible).
S 46 If swallowed, seek medical advice immediately and
show this container or label.
S 60 This material and its container must be disposed of as hazardous
waste
S 61 Avoid release to the environment. Refer to special instructions/
Safety data sheets.

Section 16. Other Information

Disclaimer: The above information contained herein is given in good faith and to the best of our knowledge. However, no warranty is expressed or implied.

Prepared by: Agrochemical Dept.

Updated on: July 11, 2022

HEBEI JRAIN TECHNOLOGY CO.,LTD .