SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier
Trade name
CRITERION™ 2F INSECTICIDE
Product code (UVP)
06004481
SDS Number
102000015064
EPA Registration No.
432-1312

Relevant identified uses of the substance or mixture and uses advised against
Use
Insecticide
Restrictions on use
See product label for restrictions.

Information on supplier
Supplier
Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA
Responsible Department
Email: SDSINFO.BCS-NA@bayer.com

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Hazards Not Otherwise Classified (HNOC)
No physical hazards not otherwise classified.
No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Concentration % by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imidacloprid</td>
<td>138261-41-3</td>
<td>21.4</td>
</tr>
<tr>
<td>Sulfonated aromatic polymer, sodium salt</td>
<td>68425-94-5</td>
<td>1.6</td>
</tr>
</tbody>
</table>
SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Inhalation
Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Skin contact
Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Eye contact
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Ingestion
Call a physician or poison control center immediately. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Rinse out mouth and give water in small sips to drink. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms
To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment
Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable
Water spray, Foam, Carbon dioxide (CO2), Dry chemical

Unsuitable
None known.

Special hazards arising from the substance or mixture
Dangerous gases are evolved in the event of a fire.

Advice for firefighters

Special protective equipment for firefighters
Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Further information
Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Flash point
> 93 °C
Auto-ignition temperature: No data available
Lower explosion limit: No data available
Upper explosion limit: No data available
Explosivity: Not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Precautions: Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up
Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice: Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.

Reference to other sections: Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling
Advice on safe handling: Use only in area provided with appropriate exhaust ventilation. Handle and open container in a manner as to prevent spillage.

Hygiene measures: Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers: Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.
SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters (TWA)</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imidacloprid</td>
<td>138261-41-3</td>
<td>0.7 mg/m3</td>
<td></td>
<td>OES BCS*</td>
</tr>
</tbody>
</table>

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Exposure controls

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection

Chemical resistant nitrile rubber gloves

Eye protection

Tightly fitting safety goggles

Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

white to light beige

Physical State

suspension

Odor

mild

Odour Threshold

No data available

pH

ca. 7.5

Vapor Pressure

No data available

Vapor Density (Air = 1)

No data available

Density

1.12 g/cm³ at 20 °C

Evaporation rate

No data available

Boiling Point

No data available

Melting / Freezing Point

-6.7 °C / 19.94 °F

Water solubility

dispersible

Minimum Ignition Energy

Not applicable
Decomposition temperature: No data available
Partition coefficient: n-octanol/water: No data available
Viscosity: 350 - 600 cps at 25 °C
Flash point: > 93 °C
Auto-ignition temperature: No data available
Lower explosion limit: No data available
Upper explosion limit: No data available
Explosivity: Not applicable

SECTION 10: STABILITY AND REACTIVITY

Reactivity
Thermal decomposition: No data available
Chemical stability: Stable under recommended storage conditions.
Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.
Conditions to avoid: freezing
Incompatible materials: No data available
Hazardous decomposition products: No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Ingestion, Skin Absorption, Eye contact, Inhalation
Immediate Effects
Eye: May cause mild irritation to eyes.
Skin: May be harmful if absorbed through skin.
Ingestion: May be harmful if swallowed.
Inhalation: May be harmful if inhaled.

Information on toxicological effects
Acute oral toxicity: LD50 (male Rat) > 4,870 mg/kg
LD50 (female Rat) 4,143 mg/kg
Acute inhalation toxicity: LC50 (male/female combined Rat) > 5.33 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol. 
(actual)

**Acute dermal toxicity**
LD50 (male/female combined Rabbit) > 2,000 mg/kg

**Skin irritation**
No skin irritation (Rabbit)

**Eye irritation**
Minimally irritating. (Rabbit)

**Sensitisation**
Non-sensitizing. (Guinea pig)

**Assessment STOT Specific target organ toxicity – repeated exposure**
Imidacloprid did not cause specific target organ toxicity in experimental animal studies.

**Assessment mutagenicity**
Imidacloprid was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

**Assessment carcinogenicity**
Imidacloprid was not carcinogenic in lifetime feeding studies in rats and mice.

**ACGIH**
None.

**NTP**
None.

**IARC**
None.

**OSHA**
None.

**Assessment toxicity to reproduction**
Imidacloprid caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Imidacloprid is related to parental toxicity.

**Assessment developmental toxicity**
Imidacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Imidacloprid are related to maternal toxicity.

**Further information**
Acute toxicity studies have been bridged from a similar formulation(s). The non-acute information pertains to the active ingredient(s).

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**SECTION 12: ECOLOGICAL INFORMATION**

**Toxicity to fish**
LC50 (Oncorhynchus mykiss (rainbow trout)) 211 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient imidacloprid.
Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 85 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient imidacloprid.

EC50 (Chironomus riparius (non-biting midge)) 0.0552 mg/l
Exposure time: 24 h
The value mentioned relates to the active ingredient imidacloprid.

Chronic toxicity to aquatic invertebrates

EC10 (Chironomus riparius (non-biting midge)): 2.09 µg/l
Exposure time: 28 d

Toxicity to aquatic plants

IC50 (Desmodesmus subspicatus (green algae)) > 10 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient imidacloprid.

Toxicity to bacteria

EC50 (activated sludge) > 10,000 mg/l

Biodegradability

Imidacloprid: Not rapidly biodegradable
Koc
Imidacloprid: Koc: 225

Bioaccumulation
Imidacloprid: Does not bioaccumulate.

Mobility in soil
Imidacloprid: Moderately mobile in soils

Environmental precautions
Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.
Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.
Apply this product as specified on the label.
Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product
Dispose in accordance with all local, state/provincial and federal regulations.

Contaminated packaging
Do not re-use empty containers.
Triple rinse containers.
Puncture container to avoid re-use.
Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning.
If burned, stay out of smoke.
Follow advice on product label and/or leaflet.
RCRA Information
Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR
Not dangerous goods / not hazardous material

IMDG
UN number 3082
Class 9
Packaging group III
Marine pollutant YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IMIDACLOPRID SOLUTION)

IATA
UN number 3082
Class 9
Packaging group III
Environm. Hazardous Mark YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IMIDACLOPRID SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 432-1312
US Federal Regulations
TSCA list
Glycerine 56-81-5
Sulfonated aromatic polymer, sodium salt 68425-94-5
Polyethylene-polypropylene copolymer 9003-11-6
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D) Not applicable.
SARA Title III - Section 302 - Notification and Information None.
SARA Title III - Section 313 - Toxic Chemical Release Reporting None.
SAFETY DATA SHEET

CRITERION™ 2F INSECTICIDE
Version 4.0 / USA
102000015064

Revision Date: 02/27/2018
Print Date: 02/28/2018

US States Regulatory Reporting
CA Prop65
This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients
Glycerine 56-81-5 MN, RI

EPA/FIFRA Information:
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 required on the pesticide label:

Signal word: Caution!
Hazard statements: Harmful if swallowed, inhaled or absorbed through the skin.
Moderate eye irritation.
Avoid contact with skin, eyes and clothing.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms
49CFR Code of Federal Regulations, Title 49
ACGIH US. ACGIH Threshold Limit Values
ATE Acute toxicity estimate
CAS-Nr. Chemical Abstracts Service number
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
EINECS European inventory of existing commercial substances
ELINCS European list of notified chemical substances
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IMDG International Maritime Dangerous Goods
N.O.S. Not otherwise specified
NTP US. National Toxicology Program (NTP) Report on Carcinogens
OECD Organization for Economic Co-operation and Development
TDG Transportation of Dangerous Goods
TWA Time weighted average
UN United Nations
WHO World health organisation
NFPA 704 (National Fire Protection Association):
Health - 1  Flammability - 1  Instability - 1  Others - none

Health - 1  Flammability - 1  Physical Hazard - 1  PPE -
0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 8: Exposure Controls / Personal Protection. Reviewed and updated for general editorial purposes.

Revision Date: 02/27/2018

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