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

Product identifier

Trade name	LEVERAGE® 360 INSECTICIDE
Product code (UVP)	79521359
SDS Number	102000019505
EPA Registration No.	264-1104

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 CropScience LP 800 North Lindbergh Blvd. St. Louis, MO 63167 USA
Responsible Department	Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days)	1-800-334-7577
Product Information Telephone Number	1-866-99BAYER (1-866-992-2937)

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Acute toxicity(Oral): Category 4
Acute toxicity(Inhalation): Category 4
Reproductive toxicity: Effects on or via lactation
Specific target organ toxicity - single exposure: Category 1

Labelling in accordance with regulation HCS 29CFR §1910.1200

Signal word: Danger

Hazard statements
Harmful if swallowed or if inhaled.
May cause harm to breast-fed children.
Causes damage to organs.

Precautionary statements
Obtain special instructions before use.
Avoid contact during pregnancy/ while nursing.
Do not breathe gas/ mist/vapours/ spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
Rinse mouth.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.
IF exposed or concerned: Get medical advice/ attention.
Store locked up.
Dispose of contents/container in accordance with local regulation.

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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Imidacloprid	138261-41-3	21.0
Beta-Cyfluthrin	1820573-27-0	10.5
Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt	68425-94-5	2.7

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. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. 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.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable	High volume water jet
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	In the event of fire and/or explosion do not breathe fumes. 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.

Specific hazards from the substance or mixture which can increase the fire

Flash point	>93.3 °C / 199.94 °F
Auto-ignition temperature	360 °C / 680 °F
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113

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. 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. Keep away from direct sunlight.
Advice on common storage	Keep away from food, drink and animal feedingstuffs.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis

Imidacloprid	138261-41-3	0.7 mg/m3 (TWA)		OES BCS*
Beta-Cyfluthrin	1820573-27-0	0.01 mg/m3 (TWA)		OES BCS*

*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 gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)
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

Information on basic physical and chemical properties

Form	suspension
Colour	white to beige
Odour	characteristic
Odour Threshold	No data available
pH	ca. 6.9 (10 %)
Melting point/range	No data available
Boiling Point	No data available
Flash point	> 93.3 °C / 199.94 °F
Flammability	No data available
Auto-ignition temperature	360 °C / 680 °F
Thermal decomposition	No data available
Minimum ignition energy	No data available
Self-accelarating	No data available

decomposition temperature (SADT)	
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapour pressure	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Relative density	No data available
Density	1.16 g/cm³ (20 °C)
Water solubility	dispersible
Partition coefficient: n-octanol/water	Imidacloprid: log Pow: 0.57 Beta-Cyfluthrin: log Pow: 6.18 (22 °C)
Viscosity, dynamic	500 - 1,100 mPa.s (25 °C)
Viscosity, kinematic	No data available
Oxidizing properties	No data available
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	No incompatible materials known.
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Skin contact, Eye contact, Inhalation, Ingestion
Immediate Effects	
Eye	May cause temporary eye irritation.
Skin	May be harmful in contact with skin.
Ingestion	Harmful if swallowed.
Inhalation	May be harmful if inhaled.
Information on toxicological effects	
Acute oral toxicity	LD50 (female Rat) > 1,044 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 2.03 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. highest concentration tested No deaths
Acute dermal toxicity	LD50 (Rat) > 2,000 mg/kg
Skin corrosion/irritation	slight irritation (Rabbit)
Serious eye damage/eye irritation	Mild eye irritation. (Rabbit)
Respiratory or skin sensitisation	Skin: Non-sensitizing. (Guinea pig)

Assessment STOT Specific target organ toxicity – single exposure

Imidacloprid: Based on available data, the classification criteria are not met.
Beta-Cyfluthrin: Causes damage to organs (Nervous system)

Assessment STOT Specific target organ toxicity – repeated exposure

Imidacloprid did not cause specific target organ toxicity in experimental animal studies.
The toxic effects of Beta-Cyfluthrin are related to transient neurobehavioral effects typical for pyrethroid neurotoxicity.

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.
Beta-Cyfluthrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Imidacloprid was not carcinogenic in lifetime feeding studies in rats and mice.
Beta-Cyfluthrin was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

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.
Beta-Cyfluthrin 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 Beta-Cyfluthrin is related to parental toxicity. Beta-Cyfluthrin is classified as reproductive toxicant in category for effects via lactation, mainly based on coarse tremors in pups of the 2-generation study. As a mechanism study for ocular effects in rat pups suggested possible adverse effect via milk, the active ingredient was classified with an additional category for effects on or via lactation.

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.
Beta-Cyfluthrin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Beta-Cyfluthrin are related to maternal toxicity.

Aspiration hazard

Based on available data, the classification criteria are not met.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).
No further toxicological information is available.

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. LC50 (Oncorhynchus mykiss (rainbow trout)) 0.000068 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient beta-cyfluthrin.
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. LC50 (Chironomus riparius (non-biting midge)) 0.0552 mg/l Exposure time: 24 h The value mentioned relates to the active ingredient imidacloprid. EC50 (Daphnia magna (Water flea)) 0.00029 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient beta-cyfluthrin.

Toxicity to aquatic plants	EC50 (Desmodesmus subspicatus (green algae)) > 10 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient imidacloprid. IC50 (Desmodesmus subspicatus (green algae)) > 0.01 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient beta-cyfluthrin. No acute toxicity was observed at its limit of water solubility.
Biodegradability	Imidacloprid: Not rapidly biodegradable Beta-Cyfluthrin: Not rapidly biodegradable
Koc	Imidacloprid: Koc: 225 Beta-Cyfluthrin: Koc: 508 - 3179
Bioaccumulation	Imidacloprid: Does not bioaccumulate. Beta-Cyfluthrin: Bioconcentration factor (BCF) 506 Does not bioaccumulate.
Mobility in soil	Imidacloprid: Moderately mobile in soils Beta-Cyfluthrin: Immobile in soil

Results of PBT and vPvB assessment

PBT and vPvB assessment	Imidacloprid: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Beta-Cyfluthrin: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Additional ecological information	No other effects to be mentioned.
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. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

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

Contaminated packaging	Consult state and local regulations regarding the proper disposal of container. 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. (BETA-CYFLUTHRIN, 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. (BETA-CYFLUTHRIN, 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 O/T POISON .
INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 264-1104

US Federal Regulations
TSCA list

Water	7732-18-5
Glycerine	56-81-5
1,2-Propanediol, polymer with 2-methyloxirane and oxirane	65395-10-0
Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt	68425-94-5

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
No export notification needs to be made.
SARA Title III - Section 302 - Notification and Information
Not applicable.
SARA Title III - Section 313 - Toxic Chemical Release Reporting
Yes

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

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ethylene oxide	75-21-8	Female reproductive toxin.
Ethylene oxide	75-21-8	Developmental toxin.
Ethylene oxide	75-21-8	Male reproductive toxin.
Ethylene oxide	75-21-8	Carcinogenic.

US State Right-To-Know Ingredients

Beta-Cyfluthrin	1820573-27-0	CT, NJ, RI
Glycerine	56-81-5	MN, RI

Environmental
CERCLA
None.
Clean Water Section 307(a)(1)
None.
Safe Drinking Water Act Maximum Contaminant Levels
None.

EPA/FIFRA Information:
This chemical is a pesticide product regulated 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 absorbed through skin.
Harmful if swallowed.
Causes moderate eye irritation.

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 - 2 Flammability - 1 Instability - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Fourth Edition Ratings Guide)

Health - 1* Flammability - 1 Physical Hazard - 0 PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard,
* = chronic health hazard

Reason for Revision: The following sections have been revised: Section 2: Hazards Identification. Section 11: Toxicological information on STOT (Specific Target Organ Toxicity) and CMR (Carcinogenic, Mutagenic and toxic to Reproduction). Section 16: Other Information. Reviewed and updated for general editorial purposes.

Revision Date: 04/15/2024

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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