Material Safety Data Sheet
BAYER ADVANCED COMPLETE BRAND INSECT KILLER
FOR GARDENS READY-TO-USE

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: BAYER ADVANCED COMPLETE BRAND INSECT KILLER FOR GARDENS READY-TO-USE
MSDS Number: 102000011910
EPA Registration No.: 432-1211-72155
Product Use: Insecticide for use on Fruits, Trees, Vegetables, Ornamentals, Shrubs, Roses and Flowers

Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call 1-800-334-7577 (24 hours/day)
For Product Information call 1-800-331-2867

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Average % by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbaryl</td>
<td>63-25-2</td>
<td>0.126</td>
</tr>
</tbody>
</table>

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview: Caution! Harmful by inhalation and if swallowed. Avoid breathing spray mist. Avoid contact with skin, eyes and clothing.

Physical State: liquid opaque

Odor: none

Appearance: white

Routes of Exposure: Ingestion, Inhalation, Eye contact, Skin contact

Immediate Effects:

Eye: May cause eye irritation. Avoid contact with eyes.

Skin: May cause slight irritation. Avoid contact with skin and clothing.

Ingestion: Harmful if swallowed. Do not take internally.

Inhalation: Harmful if inhaled. Avoid breathing spray mist.
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Medical Conditions Aggravated by Exposure
Any disease, medication or prior exposure which reduces normal cholinesterase activity may increase susceptibility to the toxic effects of the active ingredient.

SECTION 4. FIRST AID MEASURES

General
Have the product container or label with you when calling a poison control center or doctor or going for treatment.

Eye
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 poison control center or doctor for treatment advice.

Skin
Take off all contaminated clothing immediately. Rinse immediately with plenty of water for at least 15 minutes. Call a poison control center or doctor for treatment advice.

Ingestion
Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. 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.

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 poison control center or doctor for further treatment advice.

Notes to Physician

Signs and Symptoms
This product causes reversible cholinesterase inhibition. Repeated overexposure may cause more severe cholinesterase inhibition with more pronounced signs and symptoms. May lead to rapid onset of nausea, vomiting, diarrhea, abdominal pain, involuntary shaking, excess salivation, pinpoint pupils, blurred vision, profuse sweating, temporary paralysis, respiratory depression, and convulsions.

Treatment
ANTIDOTE: Atropine sulphate. Carbaryl is an N-Methylcarbamate that inhibits cholinesterase. Drugs like 2-Pam (pyridine-2-aldoxime methiodide) are not recommended. Narcotics and other sedative should not be used.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point
The product is not flammable.

Suitable Extinguishing Media
chemical foam, carbon dioxide (CO2), water fog
Fire Fighting Instructions
Keep out of smoke. Fight fire from upwind position. Move containers from fire area if without risk. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated.

Wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods for Cleaning Up
Take up with absorbent material (e.g. sand, earth or a proprietary absorbent material). Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional Advice
Use personal protective equipment. Do not allow material to enter streams, sewers, or other waterways or contact vegetation.

SECTION 7. HANDLING AND STORAGE

Handling Procedures
Do not apply as a space spray while food processing is underway. Keep away from food, drink and animal feeding stuffs.

Storing Procedures
Store in an area that is out of reach of children and animals, away from the home or home garden.

Do not freeze.

Min/Max Storage Temperatures
Do not transport or store above 38 °C / 100 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection
There are no known hazards associated with this product when used according to the label directions. At the same time, the following guidelines should be used.

Avoid inhalation of vapour or mist. Avoid contact with skin and eyes.

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Do not allow children and pets to enter the treated area until it has dried.
Engineering Controls: Ensure adequate ventilation. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

Eye/Face Protection: Protective eyewear.

Hand Protection: Latex gloves or rubber gloves.

Body Protection: Wear long-sleeved shirt and long pants and shoes plus socks.

Respiratory Protection: No personal respiratory protective equipment normally required.

Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA Z1</th>
<th>OSHA Z1A</th>
<th>US CA OEL</th>
<th>TWA</th>
<th>PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbaryl</td>
<td>63-25-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>REL</td>
<td>TWA</td>
<td>TWA PEL</td>
<td>5 mg/m³</td>
<td>5 mg/m³</td>
</tr>
</tbody>
</table>

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: white

Physical State: liquid opaque

Odor: none

pH: 3 - 4 (100 %)

Density: 1.001 g/cm³ at 20 °C

Decomposition Temperature: 140 °C

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable under recommended storage conditions.

Conditions to Avoid: Sustained temperatures above 100°F.

Incompatibility: alkalines, strong acids

Hazardous Decomposition Products: nitrogen oxides (NOx), Sulphur oxides, Carbon oxides
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methyl isocyanate

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## SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity studies have not been performed on this product as formulated. The acute toxicity data provided has been bridged from a SEVIN dust formulation containing a higher percentage of the active ingredient, carbaryl. The long-term information pertains to the technical-grade active ingredient.

**Acute Oral Toxicity**  
rat: LD50: > 1,500 mg/kg

**Acute Dermal Toxicity**  
rabbit: LD50: > 2,000 mg/kg

**Eye Irritation**  
rabbit: Irritation is transient.

**Chronic Toxicity**  
Reversible cholinesterase inhibition occurred in chronic toxicity studies in rats and dogs. The principal organs affected in rats from long-term exposure to high-doses of carbaryl included the urinary bladder, thyroid, kidneys and liver.

**Assessment Carcinogenicity**  
Carbaryl has been shown to cause tumors in laboratory animals in lifetime feeding studies.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Code</th>
<th>Overall Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>Carbaryl</td>
<td>63-25-2, Group A4</td>
</tr>
<tr>
<td>NTP</td>
<td>None.</td>
<td></td>
</tr>
<tr>
<td>IARC</td>
<td>Carbaryl</td>
<td>63-25-2, Overall evaluation: 3</td>
</tr>
<tr>
<td>OSHA</td>
<td>None.</td>
<td></td>
</tr>
</tbody>
</table>

**Reproductive & Developmental Toxicity**  
REPRODUCTION: Carbaryl was not a reproductive toxicant in a two-generation study in rats.

DEVELOPMENTAL TOXICITY: Carbaryl was not a primary developmental toxicant in rats and rabbits. Developmental effects were observed in both species but were considered secondary to maternal toxicity.

**Neurotoxicity**  
Carbaryl caused transient neurobehavioral effects (e.g., tremors) related to cholinergic toxicity without correlating neuropathological changes in acute and subchronic neurotoxicity studies in rats. Carbaryl did not cause developmental neurotoxic effects in offspring in a one-generation developmental neurotoxicity study in rats.

**Mutagenicity**  
A battery of in vitro and in vivo mutagenicity studies have been conducted on carbaryl. Collectively, these studies indicate that carbaryl poses only a slight mutagenic risk.
SECTION 12. ECOLOGICAL INFORMATION

Toxicity to Fish

Oncorhynchus mykiss (rainbow trout)
LC50: 1,950 µg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient.
Dietary concentrations.

Bluegill sunfish
LC50: 6,769 µg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient.
Dietary concentrations.

Toxicity to Other Organisms

Mallard duck
LC50: > 5,000 mg/kg
Exposure time: 8 d
The value mentioned relates to the active ingredient.

Bobwhite quail
LC50: > 5,000 mg/kg
Exposure time: 8 d
The value mentioned relates to the active ingredient.

Environmental Precautions

Extremely toxic to aquatic and estuarine invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Causes injury to Boston Ivy, Virginia Creeper and Maidenhair fern. During early season, may injure Virginia and Sand pines.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance
It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow any applicable state or local guidelines. Never place unused product down any indoor or outdoor drain.

Container Disposal
Do not re-use empty containers. Place empty container in trash. Can be offered for recycling, re-conditioning or puncture.
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RCRA Classification: The RCRA Classifications may be on the individual component(s) and not necessarily on the product as a whole.

63-25-2 Carbaryl

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SECTION 14. TRANSPORT INFORMATION
TRANSPORTATION CLASSIFICATION: Not regulated for transportation
FREIGHT CLASSIFICATION: Insecticides or Fungicides, N.O.I., other than poison

SECTION 15. REGULATORY INFORMATION
EPA Registration No. 432-1211-72155

US Federal Regulations
TSCA list
Carbaryl 63-25-2
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
None.
SARA Title III - Section 302 - Notification and Information
None.
SARA Title III - Section 313 - Toxic Chemical Release Reporting
Carbaryl 63-25-2 1.0%

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
Carbaryl 63-25-2 CA, CT, IL, MA, MN, NJ, PA, RI

Canadian Regulations
Canadian Domestic Substance List
None.
Environmental
CERCLA
Carbaryl 63-25-2 100 lbs

Clean Water Section 307 Priority Pollutants
None.

Safe Drinking Water Act Maximum Contaminant Levels
None.

International Regulations
European Inventory of Existing Commercial Substances (EINECS)
Carbaryl 63-25-2

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):
Health - 1  Flammability - 0  Reactivity - 1  Others - none
0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Re-numbered due to system update.

Revision Date: 08/24/2005

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.