



**Material Safety Data Sheet**

**BAYER ADVANCED ALL-IN-ONE LAWN WEED & CRABGRASS KILLER READY-TO-USE**

MSDS Number: 102000013790  
 MSDS Version 2.0  
 Revision Date: 05/09/2007

**SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION**

**Product Name** BAYER ADVANCED ALL-IN-ONE LAWN WEED & CRABGRASS KILLER  
 READY-TO-USE  
**MSDS Number** 102000013790  
**EPA Registration No.** 72155-1

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**

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Sodium methylarsonate	2163-80-6	0.36
2,4-D, dimethylamine salt	2008-39-1	0.12
Mecoprop-P-dimethylamine salt	66423-09-4	0.06
Dicamba, dimethylamine salt	2300-66-5	0.02

**SECTION 3. HAZARDS IDENTIFICATION**

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

**Emergency Overview** Caution! Moderate eye irritation. May be harmful if swallowed. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling.

**Physical State** opaque liquid

**Appearance** orange

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

**Immediate Effects**

**Eye** Moderate eye irritation. Avoid contact with eyes.

**Skin** May cause irritation. Avoid contact with skin and clothing.

**Ingestion** May cause irritation. May be harmful if swallowed. Do not take internally.

**Inhalation** May cause respiratory tract irritation. Avoid breathing spray mist.



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<b>Chronic or Delayed Long-Term</b>	This product or its components may have target organ effects. This product or its components may have long term (chronic) health effects.
<b>Potential Environmental Effect</b>	Toxic to aquatic invertebrates.

**SECTION 4. FIRST AID MEASURES**

<b>General</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Eye</b>	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.
<b>Skin</b>	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.
<b>Ingestion</b>	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.
<b>Inhalation</b>	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.
<b>Notes to Physician</b>	
<b>Signs and Symptoms</b>	Nausea headache Vomiting Diarrhoea
<b>Treatment</b>	There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

**SECTION 5. FIRE FIGHTING MEASURES**

<b>Flash point</b>	> 100 °C / > 212 °F
<b>Suitable Extinguishing Media</b>	Carbon dioxide (CO2), Dry chemical, Foam, Water



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**Fire Fighting Instructions**                      Fight fire from upwind position. Keep out of smoke. Cool closed containers/ tanks exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

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

**Methods for Cleaning Up**                Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). 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 to enter soil, waterways or waste water canal. Do not allow product to contact vegetation.

**SECTION 7. HANDLING AND STORAGE**

**Storing Procedures**                      Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container and out of the reach of children, preferably in a locked storage area. Protect from freezing.

**Work/Hygienic Procedures**                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. Before removing gloves clean them with soap and water. Wash thoroughly and put on clean clothing.

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**General Protection**                      There are no known hazards associated with this product when used according to the label directions. The following guidelines should be followed.

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

Do not allow children or pets to enter the treated area until it has dried.

**Hand Protection**                          Chemical resistant nitrile rubber gloves

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



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**Exposure Limits**

Sodium methylarsonate 2163-80-6	ACGIH	TWA		0.01 mg/m3
	Expressed as		as As	
	NIOSH	Ceil_Time		0.002 mg/m3
	Expressed as		as As	
	OSHA	REF		29 CFR 1910.1018
	OSHA	TWA		0.01 mg/m3
	OSHA	OSHA_ACT		0.005 mg/m3
	OSHA Z1A	TWA		0.01 mg/m3
	Expressed as		as As	
	US CA OEL	TWA PEL		0.01 mg/m3
	US CA OEL	TWA A LV		0.005 mg/m3
	OSHA Z1	PEL		0.5 mg/m3
	Expressed as		as As	
	OSHA Z1A	TWA		0.5 mg/m3
	Expressed as		as As	
	US CA OEL	TWA PEL		0.2 mg/m3
	Expressed as		as As	

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	orange
<b>Physical State</b>	opaque liquid
<b>pH</b>	7.5 - 8.5 (100 %) at 20 °C
<b>Density</b>	approx. 1.01 g/cm <sup>3</sup> at 20 °C
<b>Boiling Point</b>	100 °C / 212 °F
<b>Melting / Freezing Point</b>	< 1.7 °C / < 35.1 °F
<b>Water solubility</b>	soluble

**SECTION 10. STABILITY AND REACTIVITY**

<b>Conditions to Avoid</b>	Freezing
<b>Hazardous Reactions</b>	Stable under normal conditions.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Acute toxicity data have been bridged from a similar formulation containing a higher percentage of the active



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ingredients, MSMA, 2,4-D, MCPP-p and Dicamba. The non-acute information pertains to the technical-grade active ingredients.

**Acute Oral Toxicity** male/female combined rat: LD50: 2,488 mg/kg

**Acute Dermal Toxicity** rat: LD50: > 5,000 mg/kg

**Acute Inhalation Toxicity** rat: LC50: > 2.1 mg/l  
Exposure time: 4 h  
Determined in the form of liquid aerosol.  
Highest attainable concentration.  
No deaths

rat: LC50: > 8.4 mg/l  
Exposure time: 1 h  
Determined in the form of liquid aerosol.  
Extrapolated from the 4 hr LC50.

**Skin Irritation** rabbit: Slight irritation.

**Eye Irritation** rabbit: Mild eye irritation.

**Sensitization** guinea pig: Non-sensitizing.

**Chronic Toxicity** MSMA caused effects in the gastrointestinal tract, particularly the large intestine, and the kidney following oral exposure.

2,4-D caused effects in the thyroid, eyes, kidneys, adrenals, and ovaries/testes at dose levels above the saturation of renal clearance in chronic studies in laboratory animals.

MCPP-p caused kidney effects in chronic toxicity studies in rats and mice. MCPP-p did not target any organs in a chronic study in dogs.

Dicamba did not target any organs in chronic toxicity studies in rats and dogs.

**Assessment Carcinogenicity**

MSMA has been classified by EPA as "no evidence for carcinogenicity" based on the lack of evidence of carcinogenicity in rats and mice.

2,4-D was not carcinogenic in lifetime feeding studies in rats and mice. EPA has classified 2,4-D as a Group D chemical [not classifiable as to human carcinogenicity].

MCPP-p was not carcinogenic in a lifetime feeding study in rats but caused an increased incidence of lung tumors in male mice.

Dicamba was not carcinogenic in lifetime feeding studies in rats and mice. EPA has classified dicamba "not likely to be carcinogenic to humans."



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**ACGIH**

Sodium methylarsonate	2163-80-6	Group A1
2,4-D, dimethylamine salt	2008-39-1	Group A4

**NTP**

Sodium methylarsonate	2163-80-6	
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**IARC**

Sodium methylarsonate	2163-80-6	Overall evaluation: 1
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**OSHA**

Sodium methylarsonate	2163-80-6	
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**Reproductive & Developmental Toxicity**

**REPRODUCTION:**

MSMA was not a reproductive toxicant in a two-generation study in rats.

2,4-D caused reproductive toxicity at dose levels above the saturation of renal clearance in multi-generation studies in rats.

MCPP-p was not a reproductive toxicant in a two-generation study in rats.

Dicamba was not a primary reproductive toxicant in a two-generation reproduction study in rats. Reproductive effects were observed only at doses that caused parental systemic toxicity. Offspring toxicity was manifested at a dose lower than parental systemic toxicity.

**DEVELOPMENTAL TOXICITY:**

MSMA was not a developmental toxicant in developmental toxicity studies in rats and rabbits.

2,4-D is not a primary developmental toxicant in rats and rabbits. Developmental effects were observed at doses that caused maternal toxicity.

MCPP-p was not a primary developmental toxicant in rats and rabbits. Developmental effects were observed in rats but were considered secondary to maternal toxicity.

Dicamba was not a primary developmental toxicant in rats and rabbits. Developmental effects were observed in rabbits but were considered secondary to maternal toxicity.

**Neurotoxicity**

MSMA did not demonstrate the potential to cause neurotoxicity in standard toxicity studies using mice, rats, rabbits and dogs.

2,4-D has demonstrated neurotoxicity in rats following acute and chronic exposure at dose levels above saturation of renal clearance.

MCPP-p demonstrated neurobehavioral effects without correlating neuropathological findings in an acute oral neurotoxicity study in rats.

Dicamba has demonstrated the potential to cause neurotoxicity at high doses in laboratory animals.



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**Mutagenicity** MSMA was not mutagenic in a battery of in vitro and in vivo tests.

2,4-D has been tested in both in vitro and in vivo genotoxicity tests and was not mutagenic, although some cytogenetic effects were observed.

MCPP-p was not mutagenic or genotoxic based on the overall weight of evidence from a battery of in vitro and in vivo tests.

Dicamba did not demonstrate evidence of mutagenic potential, although, some positive results have been reported in the published literature.

**SECTION 12. ECOLOGICAL INFORMATION**

**Environmental Precautions** Do not allow to get into surface water, drains and ground water. Drift or runoff from treated areas may adversely affect non-target plants. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. 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.

**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 container label instructions and applicable local guidelines. Never place unused product down any indoor or outdoor drain.

**Container Disposal** Follow advice on product label and/or leaflet. Place empty container in trash.

**RCRA Classification** The RCRA Classifications may be on the individual component(s) and not necessarily on the product as a whole.

- 2163-80-6 Sodium methylarsonate  
US. EPA Resource Conservation and Recovery Act: (RCRA) D List of Characteristic Hazardous Wastes (40 CFR 261.21-24): D004
- 2008-39-1 2,4-D, dimethylamine salt  
US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261): U240
- 2008-39-1 2,4-D, dimethylamine salt  
US. EPA Resource Conservation and Recovery Act (RCRA) U List of Hazardous Wastes (40 CFR 261.33(f) and 40 CFR 302 [CERCLA]): U240



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**SECTION 14. TRANSPORT INFORMATION**

DOT CLASSIFICATION:  
Not regulated For Domestic Surface Transportation

FREIGHT CLASSIFICATION:  
Compounds, Tree or Weedkilling, N.O.I., other than poison, having a density of 20 LBS. or greater per cubic foot

**SECTION 15. REGULATORY INFORMATION**

EPA Registration No. 72155-1

**US Federal Regulations**

**TSCA list**

None.

**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**

Sodium methylarsonate	2163-80-6	0.1%
Dicamba, dimethylamine salt	2300-66-5	1.0%

**US States Regulatory Reporting**

**CA Prop65**

This product contains a chemical known to the State of California to cause cancer.

Sodium methylarsonate	2163-80-6
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This product does not contain any substances known to the State of California to cause reproductive harm.

**US State Right-To-Know Ingredients**

Sodium methylarsonate	2163-80-6	CA, CT, IL, MI, MN, NJ, PA, RI
2,4-D, dimethylamine salt	2008-39-1	CT
Dicamba, dimethylamine salt	2300-66-5	NJ

**Canadian Regulations**

**Canadian Domestic Substance List**

None.

**Environmental**

**CERCLA**

Sodium methylarsonate	2163-80-6	1 lbs
2,4-D, dimethylamine salt	2008-39-1	100 lbs

**Clean Water Section 307 Priority Pollutants**



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None.  
**Safe Drinking Water Act Maximum Contaminant Levels**  
None.

**International Regulations**

**European Inventory of Existing Commercial Substances (EINECS)**

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2,4-D, dimethylamine salt	2008-39-1
Dicamba, dimethylamine salt	2300-66-5

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**SECTION 16. OTHER INFORMATION**

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NFPA 704 (National Fire Protection Association):

Health - 2      Flammability - 0      Reactivity - 0      Others - none

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

Reason to Revise: Updated for general editorial purposes. Updated due to new system and numbering scheme.

Revision Date: 05/09/2007

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