



Safety Data Sheet

Issue Date: 17-Aug-2015

Revision Date: 17-Aug-2015

Version 1

1. IDENTIFICATION

Product Identifier

Product Name Pummel

Other means of identification

SDS # ADAMA-009a

Registration Number(s) EPA Reg. No. 66222-251

Recommended use of the chemical and restrictions on use

Recommended Use EPA registered pesticide.

Details of the supplier of the safety data sheet

Manufacturer Address

Makhteshim Agan of North America, Inc. (d/b/a ADAMA)
3120 Highwoods Blvd., Suite 100
Raleigh, NC 27604
1-919-256-9300

Emergency Telephone Number

Emergency Telephone (24 hr) For fire, spill and/or leak contact INFOTRAC:
1-800-535-5053 (North America) 1-352-323-3500 (International)
For medical emergencies and health/safety inquiries, contact PROSAR:
1-877-250-9291

2. HAZARDS IDENTIFICATION

This chemical is a product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-EPA registered chemicals. Please see Section 15 for additional EPA information.

Appearance Amber liquid

Physical State Liquid

Odor Moderate

Classification

Acute toxicity - Oral	Category 4
Acute toxicity – Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Reproductive toxicity	Category 1B

Signal Word

Danger

Hazard Statements

Harmful if swallowed
Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
May damage fertility or the unborn child



Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Avoid breathing dust/mist
 Use only outdoors or in a well-ventilated area
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear eye/face protection

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention
 IF INHALED: Remove person to fresh air and keep comfortable for breathing
 Call a poison center/doctor if you feel unwell
 IF SWALLOWED: Call a poison center/ doctor if you feel unwell
 Rinse mouth
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN: Wash with plenty of soap and water
 If skin irritation occurs: Get medical advice/attention
 Take off contaminated clothing and wash it before reuse

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Metolachlor II	51218-45-2	55.49
Technical Imazethapyr	81335-77-5	2.77
Proprietary Solvent 1	-	Up to 13%
Proprietary Surfactant	-	Up to 13%
Proprietary Solvent 2	-	Up to 6%

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

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.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice.

Skin Contact	Take off immediately all contaminated clothing. Drench affected area with water for at least 15 minutes. Consult a physician if necessary.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Give oxygen if breathing is difficult. If breathing has stopped, call 911, give artificial respiration. Get medical attention if necessary.
Ingestion	Immediately call a poison center or doctor/physician. DO NOT induce vomiting. If conscious, drink 8-10 oz. of water promptly. Never give anything by mouth to an unconscious person. Obtain medical attention. Do not induce vomiting unless directed by medical personnel.

Most important symptoms and effects

Symptoms	Moderate eye irritation.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Foam. Dry chemical. Water spray (fog). Foam or dry chemical systems are preferred to prevent environmental damage from excessive water runoff.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Product is not flammable.

Hazardous Combustion Products During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate area of unprotected personnel. Remain upwind of fire to avoid hazardous vapors and decomposition products. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal Precautions Wear protective clothing as described in Section 8 of this safety data sheet. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

Environmental Precautions Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Stop spill at source, dike area of spill to prevent spreading.

Methods for Clean-Up For small spills, absorb with sand, clay, or other inert absorbent. Place in appropriate containers for disposal. For large spills: recover free product. Dike for later disposal. Absorb with inert material, and then place in suitable container for chemical waste. Wash spill area with a strong detergent and water solution; rinse with water, but minimize water use during clean-up. Do not flush to sewer. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Do not contaminate water, food or feed by storage, disposal or by cleaning equipment. Keep containers closed when not in use. Use only outdoors or in a well-ventilated area. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Read and follow all directions.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep out of the reach of children. Store away from incompatible materials. Keep/store only in original container. Protect from freezing. Do not transport or store below 0 C/ 32 F.

Incompatible Materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Controls Please refer to the product label. Use only with adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Use splash goggles or face shield when contact may occur.

Skin and Body Protection Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Viton or other impervious gloves are required. Long sleeve shirt, trousers, and safety shoes.

Respiratory Protection Ensure adequate ventilation, especially in confined areas. Wear an appropriate NIOSH/MSHA approved respirator if ventilation is inadequate.

General Hygiene Considerations Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Wash at the end of each work shift and before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated. Discard contaminated leather articles. Launder or discard contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Odor	Moderate
Appearance	Amber liquid	Odor Threshold	Not determined
Color	Amber		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7-8	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	Not determined	
Flash Point	> 110 °C / > 230 °F	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid-not applicable	
Upper Flammability Limits	Not applicable	
Lower Flammability Limit	Not applicable	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	Not determined	
Water Solubility	Not determined	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	141.0 centipoise @ 25°C; 59.0 centipoise @ 39°C	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	
Bulk Density	1.080 g/cm ³ @ 25°C (9.01 lb/gal); 1.065 g/cm ³ @ 39°C (8.89 lb/gal)	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization Not known to occur.

Conditions to Avoid

Contact with incompatible materials. Keep out of reach of children. Excessive heat and freezing temperature. See Sec. 7 Handling & Storage.

Incompatible Materials

Strong oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Causes serious eye irritation.

Skin Contact Causes skin irritation.

Inhalation	Harmful if inhaled.
Ingestion	Harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Metolachlor II 51218-45-2	= 2200 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 1750 mg/m ³ (Rat) 4 h
Proprietary Surfactant	= 14500 mg/kg (Rat)	= 40 g/kg (Rat)	-
Proprietary Solvent 1	= 3598 mg/kg (Rat)	= 8 g/kg (Rabbit)	= 3.1 mg/L (Rat) 4 h
Proprietary Solvent 2	= 20000 mg/kg (Rat)	= 20800 mg/kg (Rabbit)	-

Information on physical, chemical and toxicological effects

Symptoms	Please see section 4 of this SDS for symptoms.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity	Not classifiable as a human carcinogen.
Reproductive toxicity	May damage fertility or the unborn child.

Product Information (Numerical measures of toxicity)

Acute Oral LD50 (Rat): 1,750 mg/kg
Acute Dermal LD50 (Rabbit): >5,000 mg/kg
Acute Inhalation LC50 (Rat): >2.06 mg/L (4-hr)
Eye Irritation: Moderately irritating.
Dermal Irritation: Moderately irritating.
Dermal Sensitization: Not a skin sensitizer.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Harmful to aquatic life with long lasting effects. For terrestrial uses only. Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate. Do not clean equipment or dispose of equipment wash waters in a manner that will contaminate water sources.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Metolachlor II 51218-45-2	57.1: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50 static 0.0448 - 0.0568: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50 static	8.6 - 12: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 3.3 - 4.6: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 5.4 - 12: 96 h <i>Pimephales promelas</i> mg/L LC50 static 7.4 - 10.5: 96 h <i>Poecilia reticulata</i> mg/L LC50 static		25.1: 48 h <i>Daphnia magna</i> mg/L LC50 4.25: 48 h <i>Daphnia magna</i> mg/L EC50 13 - 18.4: 48 h <i>Daphnia magna</i> mg/L EC50 Static
Proprietary Surfactant	12350 - 25500: 96 h <i>Skeletonema costatum</i> mg/L EC50	34000: 96 h <i>Pimephales promelas</i> mg/L LC50 33 - 37: 96 h <i>Oncorhynchus mykiss</i> g/L LC50 static 40: 96 h <i>Lepomis macrochirus</i> g/L LC50 static 41.7: 96 h <i>Cyprinus carpio</i> g/L LC50		7000: 24 h <i>Daphnia</i> species mg/L EC50

Proprietary Solvent 1	500: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50	832: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 1072: 96 h <i>Pimephales promelas</i> mg/L LC50 static 1400: 96 h <i>Poecilia reticulata</i> mg/L LC50 static	4897: 48 h <i>Daphnia magna</i> mg/L EC50
Proprietary Solvent 2	19000: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50	51600: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 41 - 47: 96 h <i>Oncorhynchus mykiss</i> mL/L LC50 static 51400: 96 h <i>Pimephales promelas</i> mg/L LC50 static 710: 96 h <i>Pimephales promelas</i> mg/L LC50	10000: 24 h <i>Daphnia magna</i> mg/L EC50 1000: 48 h <i>Daphnia magna</i> mg/L EC50 Static

Persistence/Degradability

Metolachlor: Moderately persistent in soil and highly persistent in water. Relatively stable in water.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Metolachlor II 51218-45-2	2.9
Proprietary Surfactant	-2.03
Proprietary Solvent 1	-0.46

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods**Disposal of Wastes**

Do not contaminate water, food, or feed by storage or disposal. END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS. PRODUCT DISPOSAL: Pesticide spray mixture or rinsate that cannot be used should be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

<u>DOT</u>	Pack size less than 119 Gallons (450 Lt) : Not Regulated
	Pack size over 119 Gallons (450 Lt):
UN/ID No	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Metolaclor)
Hazard Class	9
Packing Group	III
Marine Pollutant	Yes
<u>IATA</u>	
UN/ID No	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Metolaclor)
Hazard Class	9
Packing Group	III
Marine Pollutant	Yes
<u>IMDG</u>	
UN/ID No	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Metolaclor)
Hazard Class	9
Packing Group	III
Marine Pollutant	Yes

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Metolachlor II				Present				Present		X
Proprietary Solvent 1	Present	X		Present		Present	X	Present	X	X
Proprietary Surfactant	Present	X		Present		Present	X	Present	X	X
Proprietary Solvent 2	Present	X		Present		Present	X	Present	X	X
Technical Imazethapyr							X			

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313

Not determined

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Proprietary Solvent 1	-	11.74-12.98	1.0

US State Regulations

Chemical Name	California Proposition 65
Proprietary Solvent 1	Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Metolachlor II 51218-45-2	X		
Proprietary Surfactant	X		
Proprietary Solvent 1	X	X	X
Proprietary Solvent 2	X		X

EPA Pesticide Registration Number 66222-251**EPA Statement**

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 as required on the pesticide label:

EPA Pesticide Label

Signal Word: Caution

Harmful if swallowed. Avoid contact with skin, eyes or clothing. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Wear long-sleeved shirt and long pants, socks, shoes, and gloves. Wear protective eyewear. This product may cause skin sensitization in some people.

Difference between SDS and EPA pesticide label

	EPA	OSHA
Signal Word	Caution	Danger
Acute toxicity - Oral	Harmful if swallowed	Harmful if swallowed
Acute toxicity - Inhalation	N/A	Harmful if inhaled
Serious eye damage/eye irritation	Causes moderate eye irritation	Causes serious eye irritation
Skin corrosion/irritation	N/A	Causes skin irritation
Reproductive Toxicity	N/A	May damage fertility or the unborn child
Skin sensitization	May cause skin sensitization in some people	N/A

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards	Flammability	Instability	Special Hazards
	1	0	0	None
<u>HMIS</u>	Health Hazards	Flammability	Physical Hazards	Personal Protection
	1	0	0	See Section 8

Issue Date: 17-Aug-2015
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Revision Note: New product

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet