STAM M4 HERBICIDE

Date Prepared: November 9, 2011

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION:

Product Name: STAM M4 HERBICIDE
Chemical Name: 3,4-dichloropropionanilide
EPA Reg. No.: 71085-36

HAZARD CLASSIFICATION (0-minimal, 1-slight, 2-moderate, 3-serious, 4-severe)

NFPA: HEALTH - 2 FIRE - 0 REACTIVITY - 0
HMIS: HEALTH - 2 FIRE - 0 REACTIVITY - 0

MANUFACTURER

Company Name: RiceCo L.L.C.
Address: 5100 Poplar Avenue, Suite 2428
Memphis, Tennessee 38137 USA

EMERGENCY TELEPHONE NUMBER(S):

RiceCo L.L.C. (888) 835-1313
Global Logistics: (504) 439-3140 or (727) 374-5705

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	% by Wt.	CAS Number	TWA/STEL	ACGIH(TLV)/OSHA (PEL)
3,4'-Dichloropro-pionanilide	44.8	709-98-8	Not established	Not established
Inerts				
Isophorone	30-31	78-59-1		23 mg/m^3 4 ppm
Methyl isobutyl ketone	10-12	108-10-1		205 mg/m^3 50 ppm

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Primary routes of exposure are: Inhalation, ingestion, skin contact and eye contact

POTENTIAL HEALTH EFFECTS

Inhalation: Vapors can irritate the nose and throat and cause drowsiness, slurred speech, headache, nausea, dizziness, stupor and unconsciousness.
Eye Irritation: Contact is moderately irritating..
Skin Irritation: May be irritating to skin upon repeated or prolonged exposure.
Skin Absorption: Slightly toxic if absorbed through the skin.
Ingestion: May cause stupor, dizziness, fever, drowsiness, and blue lips and fingernails.

4. FIRST AID MEASURES

Inhalation: Move person to fresh air. If not breathing, call 911 or an ambulance, then administer artificial respiration preferably mouth-to-mouth. Call a poison control center or doctor for further treatment advice.
Eye Contact: Hold eyelids open and flush with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.
Skin Contact: Remove contaminated clothing including shoes. Wash with plenty of soap

and water for 15 – 20 minutes until no evidence of chemical remains. Launder contaminated clothing separately. Get medical attention if irritation persists.

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 told to by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
NOTE TO PHYSICIAN: Repeated or prolonged use by any route may cause cyanosis. Symptoms include blue lips and fingernail beds. Due to the presence of isophorone in this product, in cases of severe or excessive inhalation observation for 72 hours due to possibility of pulmonary edema.

5. FIRE FIGHTING MEASURES

Flash Point:	43°C/110° (Seta Closed Cup)
Flammable Limits in Air:	Not available
Values listed for Isophorone And MIBK	Upper 7.5% MIBK Lower 0.8% Isophorone
Autoignition Temperature (°F):	For Methyl isobutyl ketone 357 ºC/675°F

FIRE FIGHTING HAZARDS AND PROCEDURES

General Hazard:	Prevent human exposure to fire, smoke, fumes or products of combustion. Stay upwind and keep safe distance from the fire.
Unusual Fire, Explosion And Reactivity Hazards:	Combustion produces noxious fumes, hydrogen chloride, chlorine, organic acids and chloroanilines. Pesticide particulates may become airborne. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.
Extinguishing Media:	Use dry chemical, carbon dioxide, water spray, water fog or chemical foam. Runoff should be contained.
Fire Fighting Equipment:	Wear full protective clothing and self-contained breathing apparatus (pressure demand MSHA/NIOSH approved or equivalent). Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area and equipment until decontaminated. Runoff should be contained.
Special Procedures:	Move containers promptly out of fire zone. If removal is impossible, cool containers with water spray. Do not use a solid stream of water. A solid stream of water can spread fire. Remain upwind. Avoid breathing noxious fumes from fire-exposed material. Runoff should be contained.

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak: Eliminate all ignition sources. Ventilate the spill area. Comply with fire, explosion, safety precaution, personal protective equipment sections of this MSDS before proceeding with cleanup. Absorb material with inert material such as 'oil dry' and transfer to suitable container. Keep spills and cleaning runoff out of municipal sewers and open bodies of water. Contact RiceCo or Global Logistics if assistance is needed. For spills in excess of allowable limits (RQ) notify the National Response Center (800) 424-8802, refer to SARA Title III, Section 313 40 CFR 372, and CERCLA 40 CFR 302 for

complete regulations concerning reporting requirements.

7. HANDLING AND STORAGE

Storage Conditions:	Keep containers tightly closed when not in use. Avoid temperature extremes, ambient temperature preferred. Do not store or consume food, drink or tobacco in areas where they may become contaminated by this material. Store in a well ventilated area away from excessive heat (e.g. steampipes, radiators), from sources of ignition, and from reactive materials. Store out of direct sunlight in a cool place. Store in a dry area. Store in a secure area away from children.
Handling Procedures:	Do not handle material near food, feed, tobacco or drinking water. Wash after handling and shower thoroughly at end of work period.
Other:	Improper disposal or re-use of product container may be dangerous and illegal. Refer to local, state, tribal and federal regulations regarding safe handling and disposal of chemical and chemical containers. Dispose of empty containers in a sanitary landfill or by incineration as allowed by state, local, tribal and federal authorities. Avoid inhalation of smoke, if incinerated.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

PESTICIDE APPLICATORS & WORKERS

These workers must refer to the Product Label and Directions for Use attached to the product for Agriculture Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170.

MANUFACTURING, COMMERCIAL BLENDING and REPACKAGING WORKERS

Ventilation:	Provide local exhaust ventilation and/or general dilution ventilation to control mist or vapor concentration and to meet published exposure limits.
Respiratory Protection:	Up to 10 times the exposure limit: Wear a MSHA/NIOSH approved half-mask, air purifying respirator or equivalent. Up to 100 times the exposure limit: Wear a MSHA/NIOSH approved full-face piece, air purifying respirator or equivalent. Above 100 times the exposure limit: Wear a MSHA/NIOSH approved self-contained breathing apparatus in the positive pressure mode or MSHA/NIOSH approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions. Air purifying respirators should be equipped with pesticide cartridges (organic vapor cartridge and pesticide pre-filter).
Eye Protection:	Use chemical splash goggles (ANSI Z-87.1 or approved equivalent).
Hand Protection:	Butyl rubber and nitrile gloves may provide protection against permeation. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands thoroughly with soap and water.
Other Protection:	Wear long-sleeved shirt, long pants, shoes, socks and chemical resistant apron or other impervious clothing to avoid prolonged or repeated exposure to skin.

Engineering Controls

(Ventilation): Use explosion proof local exhaust with a minimum capture velocity of 150 ft/min (0.75 m/sec) at the point of vapor or mist evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use and maintenance of exhaust systems.

Other Protection Equipment: Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL
Isophorone		23 mg/m^3 4 ppm
Methyl isobutyl ketone	50 ppm	205 mg/m^3 50 ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure:	5.3 mm/Hg @ 20^{o}C /68F
Vapor Density:	9.3
Viscosity:	50 cps approx..
Bulk Density:	No data available
Solubility in Water:	Dispersible in water
Specific Gravity	1.075
pH:	No data available
Boiling Point:	Not available
Melting Point:	Not available
Odor:	Sweet
Color:	Brown Black
Physical State:	Liquid
Evaporation Rate:	Not available
Percent Volatiles:	41-47%
VOC Content:	Not available
Percent Solids:	Not available

10. STABILITY AND REACTIVITY

General: This material is considered to be stable; however, contact with ignition sources such as sparks, open flame and heated surfaces are to be avoided.

Hazardous Decomposition: Thermal decomposition may yield noxious fumes such as hydrogen chloride, organic acids and chloroanilines.

Hazardous Polymerization: This material will not undergo polymerization.

Incompatibility: Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological data available for a compositionally similar material:

ACUTE

Inhalation:	Oral LC_{50} rat: >2./8 mg/L for 4 hr
Eye Irritation:	Rabbit – Substantial irritant to eyes
Skin Irritation:	Rabbit – moderate irritation
Oral LD_{50}	Rat - >500 mg/kg
Dermal LD_{50}	Rat - >2000 mg/kg

Chronic Toxicity: Stam M4 – Studies conducted with technical material have noted

the following effects: Liver effects (centrilobular enlargement), blood effects (methemoglobineamia, decreased hemoglobin and hemolytic anemia) and cyanosis are observed at 25 mg/kg/day or above.

Carcinogenicity: Overall NOEL in mice = 30 ppm (5 mg/kg/day)

Ames mutagenicity: Negative
DNA damage: Negative
Mammalian cell gene-mutation assay in Chinese hamster ovary cells: Negative
In vivo cytogenic assay (mouse): Negative.

Chemical Name	ACGIH	IARC	NTP	OSHA
Isophorone	A3			

12. ECOLOGICAL INFORMATION

The data listed below are from studies conducted on the technical material, 96 – 98% active ingredient.

Environmental Toxicity:		
	Bluegill sunfish (Lepomis macrochirus)LC_{50} - 96 hr.	5.4 mg/l
	Rainbow Trout (Salmo gairdneri) LC_{50} – 96 hr.	2.3 mg/l
	Quail, Oral LD_{50}	196 mg/kg
	Quail, 8-day Dietary LC_{50}	2861 ppm
	Mallard duck,8-day Dietary LC_{50}	5627 ppm
	Daphnia magna, 48 hr. EC_{50}	0.14 mg/l
	Estuarine and marine organism, 48-96 hr. EC_{50}	0.4 – 5.8 mg/l
	This product is toxic to fish	

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable federal, state, and local laws and regulations. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or 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.

14. TRANSPORT INFORMATION:

Department of Transportation (DOT):		Not Regulated
International Air Transport Association (IATA):		
	Un-No	UN 1993
	Proper Shipping Name	Flammable liquid, n.o.s. (methyl isobutyl ketone)
	Hazard Class	3
	Packing Group	PG III
	ERG Code	3 L
IMDG/IMO:		
	UN-NO	UN1993
	Proper Shipping Name:	Flammable liquid, n.o.s. (Methyl isobutyl ketone)
	Hazard Class	3
	Packing Group	PGIII

EmS No.	F-E, S-E

IATA:

UN-NO	UN1993
Proper Shipping Name	Flammable liquid, n.o.s. (methyl isobutyl ketone)
Hazard Class	3
Packing Group	PGIII
ERG Code	3L

The DOT classification is for use when shipping in non-bulk packaging for domestic surface transportation only. Exceptions in CFR 49 Parts 171-177 may apply. Consult CFR 49 Parts 171-177 to determine appropriate classification when shipping in bulk packages or when shipping by ocean or air.

15. REGULATORY INFORMATION

OSHA: This product is considered hazardous under OSHA Hazard Communication Standard (29CFR 1910.1200)

TSCA: This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and is therefore exempt from U.S. Toxic Substances Control Act (TSCA) Inventory listing requirements.

CERCLA: Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to the state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304.

RCRA: When a decision is made to discard this material as supplied, it does not meet RCRA's characteristic definition of ignitability, reactivity, or corrosivity and is not listed in 40 CFR 261.33. The toxicity characteristic (TC), however, has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).

SARA TITLE III:

311/312 Hazard Categories: This product has been reviewed according to the EPA "Hazard Categories" relating to SARA Title III, and is categorized as an immediate health hazard (40 CFR 370.41).

313 Reportable Ingredients: This product does contain a material at or above de minimis concentrations, which is listed in Section 313 of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.

16. OTHER INFORMATION

REVISION SUMMARY

This Material Safety Data Sheet (MSDS) has been revised using the standard ANSI Z400.1 compliant format and replaces the one dated _____.

THE INFORMATION CONTAINED IN THIS MSDS RELATES TO THIS SPECIFIC PRODUCT. IT MAY NOT BE VALID FOR THIS PRODUCT IF USED IN COMBINATION WITH ANY OTHER PRODUCTS OR IN ANY PROCESS. IT IS THE USERS' RESPONSIBILITY TO SATISFY THEMSELVES AS TO THE SUITABILITY AND COMPLETENESS OF THIS INFORMATION FOR THEIR OWN PARTICULAR USE.