

SAFETY DATA SHEET

ROYAL MH-30® SG

Version	Revision Date:	MSDS Number:	Country: US
1.5	10/23/2015	400000003984	Language: EN

SECTION 1. IDENTIFICATION

Product name : ROYAL MH-30® SG

Product code : 400000003984

Manufacturer or supplier's details

Company: MacDermid Agricultural Solutions, Inc
245 Freight St
Waterbury, CT
United States of America
06702
Telephone : +1 800 423 8569

Prepared by sds.request@arysta.com

Further information for the safety data sheet :
sds.request@arysta.com

1.4 Emergency telephone number

Emergency telephone number: Agriphar Crop Solutions: +1 800 423 8569(24 hours) 800-424-9300
For additional emergency telephone numbers see section 16 of the
Safety Data Sheet.

Recommended use of the chemical and restrictions on use

Recommended use : Plant growth regulator

Restrictions on use : Agriculture, For professional users only.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute aquatic toxicity : Category 3

Chronic aquatic toxicity : Category 2

GHS Label element

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Hazard pictograms

:



Hazard statements

: H402 Harmful to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

: **Prevention:**
P273 Avoid release to the environment.
Response:
P391 Collect spillage.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture

: Mixture

Chemical nature

: Maleic hydrazide, potassium salt - 60%

Hazardous components

Chemical Name	CAS-No.	Concentration (% w/w)
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	≥ 10 - < 20
Alkyl naphthalene sulfonate, sodium salt	Not Assigned	≥ 1 - < 5
potassium hydroxide	1310-58-3	≥ 1 - < 5
Benzenesulfonic acid, mono-C10-16-alkyl derivs., sodium salts	68081-81-2	≥ 1 - < 5

SECTION 4. FIRST AID MEASURES

If inhaled

: Remove to fresh air.
If symptoms persist, call a physician.

In case of skin contact

: Wash off with warm water and soap.
If symptoms persist, call a physician.
Wash clothing before reuse.

In case of eye contact

: Rinse thoroughly with plenty of water, also under the eyelids.
If symptoms persist, call a physician.

If swallowed

: Do NOT induce vomiting.
Rinse mouth with water.
Obtain medical attention.
Never give anything by mouth to an unconscious person.

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Most important symptoms and effects, both acute and delayed	: No information available. No information available.
Notes to physician	: The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Carbon dioxide (CO2) Dry powder Foam Water mist
Unsuitable extinguishing media	: Water spray
Specific hazards during fire-fighting	: No information available.
Further information	: Use water spray to cool unopened containers. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus. Full protective flameproof clothing

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Wear suitable protective equipment.
Environmental precautions	: Do not allow material to contaminate ground water system. Do not allow uncontrolled discharge of product into the environment.
Methods and materials for containment and cleaning up	: Sweep up and shovel into suitable containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	: Handle and open container with care. Use only with adequate ventilation. Avoid dust formation. Do not get in eyes or mouth or on skin. Wear suitable protective clothing, gloves and eye/face protection. Wash thoroughly after handling. Keep container closed when not in use.
Conditions for safe storage	: Keep containers tightly closed in a dry, cool and well-ventilated

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place.
Keep only in the original container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
potassium hydroxide	1310-58-3	C	2 mg/m ³	ACGIH
		C	2 mg/m ³	OSHA P0
		C	2 mg/m ³	NIOSH REL

Hazardous components without workplace control parameters

Components	CAS-No.
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9
Alkyl naphthalene sulfonate, sodium salt	Not Assigned
Benzenesulfonic acid, mono-C10-16-alkyl derivs., sodium salts	68081-81-2

Engineering measures : Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
Dust safety masks are recommended when the dust concentration is more than 10 mg/m³.

Hand protection

Remarks : Chemical resistant protective gloves

Eye protection : Safety glasses with side-shields conforming to EN166

Skin and body protection : Long sleeved clothing
Remove and wash contaminated clothing before re-use.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
Avoid contact with skin, eyes and clothing.
Wear suitable gloves and eye/face protection.
When using do not eat, drink or smoke.
Wash thoroughly after handling.
Keep working clothes separately.
Remove and wash contaminated clothing before re-use.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: granular
Colour	: light brown
Odour	: very faint, to, odourless
Odour Threshold	: No data available
pH	: 8 - 12, 2 %(as aqueous solution)
Melting point/range	: ca. 304 °C
Boiling point/boiling range	: Not applicable
Flash point	: >= 100 °C
Evaporation rate	: Not applicable
Flammability (solid, gas)	: The product is not flammable.
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: Not applicable
Relative vapour density	: Not applicable
Relative density	: 0.5 - 0.8
Density	: 0.5 - 0.8 g/cm3
Solubility(ies)	
Water solubility	: soluble
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: Not applicable
Self-Accelerating decomposition temperature (SADT)	: Method: No information available.

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Oxidizing potential : The substance or mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reaction known under conditions of normal use.
Conditions to avoid	: Extremes of temperature and direct sunlight.
Incompatible materials	: Strong acids and strong bases Oxidizing agents
Hazardous decomposition products	: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	: LD50 (Rat, male and female): 7,500 mg/kg GLP: yes
Acute inhalation toxicity	: LC50 (Rat): > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist GLP: yes
Acute dermal toxicity	: LD50 (Rabbit): > 2,000 mg/kg GLP: yes

Components:

potassium hydroxide:

Acute oral toxicity	: LD50 Oral (Rat): 273 mg/kg
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Skin corrosion/irritation

Product:

Species: Rabbit

Result: Mild skin irritation

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

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Serious eye damage/eye irritation

Product:

Species: Rabbit

Result: No eye irritation

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

Respiratory or skin sensitisation

Product:

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Product:

Germ cell mutagenicity - Assessment : Based on available data, the classification criteria are not met.

Carcinogenicity

Product:

Carcinogenicity - Assessment : Based on available data, the classification criteria are not met.

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

Reproductive toxicity - Assessment : Based on available data, the classification criteria are not met.

STOT - single exposure

Product:

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

STOT - repeated exposure

Product:

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

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 130.8 mg/l Exposure time: 96 h GLP: yes NOEC (Oncorhynchus mykiss (rainbow trout)): 111.3 mg/l Exposure time: 96 h GLP: yes
Toxicity to daphnia and other aquatic invertebrates	: NOEC (Daphnia magna (Water flea)): 207.2 mg/l Exposure time: 48 h GLP: yes EC50 (Daphnia magna (Water flea)): 244 mg/l Exposure time: 48 h GLP: yes
Toxicity to algae	: EC50 (Pseudokirchneriella subcapitata (microalgae)): 445.2 mg/l Exposure time: 72 h GLP: yes NOEC (Pseudokirchneriella subcapitata (microalgae)): 179.6 mg/l Exposure time: 72 h GLP: yes EC50 (Myriophyllum aquaticum (aquatic macrophyte plant)): 12.3 mg/l Exposure time: 7 d GLP: yes NOEC (Myriophyllum aquaticum (aquatic macrophyte plant)): 3.2 mg/l Exposure time: 7 d GLP: yes EC50 (Myriophyllum aquaticum (aquatic macrophyte plant)): 54.4 mg/l Exposure time: 4 d GLP: yes

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	NOEC (Myriophyllum aquaticum (aquatic macrophyte plant)): 10.0 mg/l Exposure time: 4 d GLP: yes
Toxicity to fish (Chronic toxicity)	: NOEC (Oncorhynchus mykiss (rainbow trout)): 30 mg/l Exposure time: 21 d GLP: yes
	LC50 (Oncorhynchus mykiss (rainbow trout)): > 88 mg/l Exposure time: 21 d GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: EC50 (Daphnia magna (Water flea)): 110 mg/l Exposure time: 21 d GLP: yes
	NOEC (Daphnia magna (Water flea)): 0.95 mg/l Exposure time: 21 d GLP: yes

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Mobility in soil

Product:

Mobility : Remarks: No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

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Waste from residues	: The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging	: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG

UN number	: UN 3077
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Isotridecyl alcohol ethoxylate, 1,2-dihydropyridazine-3,6-dione, potassium salt)
Class	: 9
Packing group	: III
Labels	: 9

IATA-DGR

UN/ID No.	: UN 3077
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., Environmentally hazardous substance, solid, n.o.s. (Isotridecyl alcohol ethoxylate, 1,2-dihydropyridazine-3,6-dione, potassium salt)
Class	: 9
Packing group	: III
Labels	: Miscellaneous
Packing instruction (cargo aircraft)	: 956
Packing instruction (passenger aircraft)	: 956

IMDG-Code

UN number	: UN 3077
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Isotridecyl alcohol ethoxylate, 1,2-dihydropyridazine-3,6-dione, potassium salt)
Class	: 9
Packing group	: III
Labels	: 9
EmS Code	: F-A, S-F
Marine pollutant	: yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

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National Regulations

49 CFR

UN/ID/NA number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.
(Isotridecyl alcohol ethoxylate, 1,2-dihydropyridazine-3,6-dione, potassium salt)
Class : 9
Packing group : III
Labels : CLASS 9
ERG Code : 171
Marine pollutant : yes(Isotridecyl alcohol ethoxylate, 1,2-dihydropyridazine-3,6-dione, potassium salt)
Remarks : Not regulated by DOT and TDG if shipped or transported in packaging less than 450 liters by road and/or rail. Please refer to 49 CFR for any details.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Component RQ (lbs)
	1310-58-3	1000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SSARA 311/312 Hazards : No SARA Hazards

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMi Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

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The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

potassium hydroxide	1310-58-3	1.5 %
naphthalene	91-20-3	0.0 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

potassium hydroxide	1310-58-3	1.5 %
naphthalene	91-20-3	0.0 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

California Prop. 65

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

naphthalene	91-20-3
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TSCA list

Not relevant

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

FIFRA Hazard Information:

This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals. The pesticide label also includes other important information, including directions for use.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic

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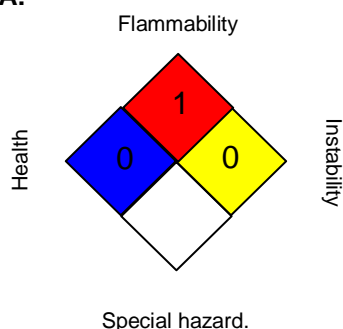
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substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

Further information

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

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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.

US / EN

Carechem24 International Worldwide Coverage

Emergency Phone Number

Europe:	All European Countries	+44 (0) 1235 239 670 (NCEC)
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<u>Asia Pacific:</u>	East / South East Asia – Regional Number	+65 3158 1074
	Australia	+61 2801 44558
	New Zealand	+64 9929 1483
	China	+86 532 8388 9090
	China Taiwan	+86 10 5100 3039
	Japan	+81 345 789 341
	Indonesia	00780 3011 0293
	Malaysia	+60 3 6207 4347
	Thailand	001800 1 2066 6751
	Korea	+65 3158 1285 +82 (0)234 798 401
	Vietnam	+65 3158 1255
	India	+65 3158 1198 0800 100 7479
	Pakistan	+65 3158 1329
	Philippines	+65 31581203
	Sri Lanka	+65 3158 1195
	Emergency Phone Number	+65 3158 1200
<u>Middle East / Africa:</u>	Arabic speaking countries	+44 (0) 1235 239 671
	South Africa	+27 21 300 2732
	All other countries	+44 (0) 1235 239 670
<u>America</u>	United States of America and Canada	+1866 928 0789 +1 215 207 0061
<u>Latin America:</u>	Brazil	+55 11 3197 5891
	Mexico	+52 555 004 8763
	Chile	+56 225 829 336
	All other countries	+44 (0) 1235 239 670