

SAFETY DATA SHEET

ROYAL MH-30®

Version Revision Date: MSDS Number: Country: US
1.16 10/23/2015 400000004579 Language: EN

SECTION 1. IDENTIFICATION

Product name : ROYAL MH-30®

Product code : 400000004579

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

Eye irritation : Category 2B

GHS Label element

Signal word : Warning

Hazard statements : H320 Causes eye irritation.

SAFETY DATA SHEET

ROYAL MH-30®

Version 1.16 Revision Date: 10/23/2015 MSDS Number: 400000004579 Country: US
Language: EN

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
Chemical nature : Maleic hydrazide, potassium salt - 21.7%

Hazardous components

Chemical Name	CAS-No.	Concentration (% w/w)
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	>= 5 - < 10

SECTION 4. FIRST AID MEASURES

If inhaled : If breathed in, move person into fresh air.
Give oxygen or artificial respiration if needed.
Consult a physician after significant exposure.

In case of skin contact : If on clothes, remove clothes.
Wash off with warm water and soap.
If skin irritation occurs, seek medical advice/attention.
Wash contaminated clothing before re-use.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.
If eye irritation persists, consult a specialist.

If swallowed : Do NOT induce vomiting.
Clean mouth with water and drink afterwards plenty of water.
Obtain medical attention.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : Eye irritation
Symptoms may be delayed.
Causes eye irritation.
Toxic if inhaled.

Notes to physician : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SAFETY DATA SHEET

ROYAL MH-30®

Version 1.16 Revision Date: 10/23/2015 MSDS Number: 400000004579 Country: US
Language: EN

Avoid inhalation, ingestion and contact with skin and eyes.
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 place.
Keep only in the original container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Hazardous components without workplace control parameters

Components	CAS-No.
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9

Engineering measures : Use mechanical ventilation for general area control.
Ensure that extracted air cannot be returned to the workplace through the ventilation system.
Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.
In the case of vapour formation use a respirator with an approved filter.
Respirator with a vapour filter (EN 141)

Hand protection

Remarks : Chemical resistant protective gloves

Eye protection : Safety glasses with side-shields
or
Safety goggles

Skin and body protection : Long sleeved clothing
Remove and wash contaminated clothing before re-use.
To protect against splashes from pouring:
Rubber or plastic boots
Rubber or plastic apron

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
Wear suitable gloves and eye/face protection.
Avoid contact with skin, eyes and clothing.
Do not inhale aerosol.
Ensure adequate ventilation, especially in confined areas.

SAFETY DATA SHEET

ROYAL MH-30®

Version 1.16 Revision Date: 10/23/2015 MSDS Number: 400000004579 Country: US
Language: EN

When using do not eat, drink or smoke.
Wash thoroughly after handling.
Keep working clothes separately.
Remove and wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : clear, colourless, to, light yellow

Odour : slight

Odour Threshold : No data available

pH : 8.5 - 9.5

Melting point/range : Not applicable

Boiling point/boiling range : No data available

Flash point : Not combustible.

Evaporation rate : 0.22
(Butyl acetate = 1)

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : 1.135 g/cm³ (25 °C)

Solubility(ies)

 Water solubility : completely miscible

 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 : 3 mPa.s (25 °C)

SAFETY DATA SHEET

ROYAL MH-30®

Version 1.16 Revision Date: 10/23/2015 MSDS Number: 400000004579 Country: US
Language: EN

Viscosity, kinematic : No data available

Self-Accelerating decomposition temperature (SADT) : Method: No information available.

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 : Hazardous polymerisation does not occur.

Conditions to avoid : Extremes of temperature and direct sunlight.

Incompatible materials : Oxidizing agents
Strong acids and strong bases

Hazardous decomposition products : Burning produces noxious and toxic fumes.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.8 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation

Product:

Species: Rabbit
Result: slight irritation

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: Mild eye irritation

Respiratory or skin sensitisation

Product:

SAFETY DATA SHEET

ROYAL MH-30®

Version 1.16 Revision Date: 10/23/2015 MSDS Number: 400000004579 Country: US
Language: EN

Species: Guinea pig
Assessment: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Product:

Germ cell mutagenicity - Assessment : negative

Carcinogenicity

Product:

Carcinogenicity - Assessment : negative

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 : negative

STOT - single exposure

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

SAFETY DATA SHEET

ROYAL MH-30®

Version 1.16 Revision Date: 10/23/2015 MSDS Number: 400000004579 Country: US
Language: EN

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

Waste from residues : Dispose of waste in accordance with environmental legislation.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

National Regulations

49 CFR

UN/ID/NA number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.
(Maleic hydrazide)
Class : 9
Packing group : III
Labels : CLASS 9
ERG Code : 171
Marine pollutant : no

SAFETY DATA SHEET

ROYAL MH-30®

Version 1.16 Revision Date: 10/23/2015 MSDS Number: 400000004579 Country: US
Language: EN

Remarks : Not regulated by DOT and TDG if shipped or transported in packaging less than 12,617 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)
ethylene oxide	75-21-8	10	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
ethylene oxide	75-21-8	10	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SSARA 311/312 Hazards : Acute Health Hazard

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 SOCM I-Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

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

California Prop. 65

ethylene oxide WARNING! This product contains a chemical known to the State of California to cause cancer.
75-21-8

WARNING: This product contains a chemical known to the

SAFETY DATA SHEET

ROYAL MH-30®

Version 1.16 Revision Date: 10/23/2015 MSDS Number: 400000004579 Country: US
Language: EN

State of California to cause birth defects or other reproductive harm.

ethylene oxide

75-21-8

TSCA list

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.

The hazard information required on the pesticide label is reproduced below.

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing.

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by disposal of equipment washwaters.

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 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

SAFETY DATA SHEET

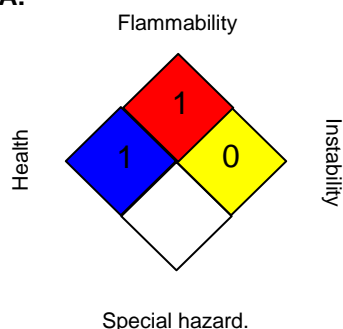
ROYAL MH-30®

Version 1.16 Revision Date: 10/23/2015 MSDS Number: 400000004579 Country: US
Language: EN

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	1
FLAMMABILITY	1
PHYSICAL HAZARD	0

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

Revision Date : 10/23/2015

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

<u>Europe:</u>	All European Countries	+44 (0) 1235 239 670 (NCEC)
<u>Asia Pacific:</u>	East / South East Asia – Regional Number	+65 3158 1074
	Australia	+61 2801 44558

SAFETY DATA SHEET

ROYAL MH-30®

Version
1.16

Revision Date:
10/23/2015

MSDS Number:
400000004579

Country: US
Language: EN

	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