



# Material Safety Data Sheet

## ROYAL MH-30®

Version: 1.10

Revision Date: 01/31/2013

Print Date: 02/06/2013

### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: ROYAL MH-30®

Product Use Description: Plant growth regulator

Company: Chemtura Corporation  
199 Benson Road  
Middlebury, CT  
06749  
United States of America

Telephone: (US) +1 866-430-2775

Emergency telephone number: CHEMTREC: (24 hours) 800-424-9300  
:  
Chemtura Corporation Emergency Response: CHEMTURA : 800-292-5898  
  
For additional emergency telephone numbers see section 16 of the Safety Data Sheet.

Prepared by: Product Safety Department  
(US) +1 866-430-2775  
  
01/31/2013  
  
MSDSRequest@chemtura.com

### SECTION 2. HAZARDS IDENTIFICATION

#### Emergency Overview

#### CAUTION!

Form: liquid      Colour: clear colourless to light yellow      Odour: slight

Hazard Summary : Irritating to eyes.  
May cause skin irritation.

OSHA Hazards : THIS MATERIAL IS HAZARDOUS UNDER THE CRITERIA OF THE FEDERAL  
OSHA HAZARD COMMUNICATION STANDARD 29CFR 1910.1200.

#### Potential Health Effects

Primary Routes of Entry : Skin contact  
Eye contact  
Inhalation



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Aggravated Medical Condition : None known.  
Inhalation : No adverse effects are expected under normal conditions of use.  
  
Skin : May irritate skin.  
  
Eyes : Irritating to eyes.  
  
Ingestion : No evidence of adverse effects from available information.  
  
Symptoms of Overexposure : No information available.

### Carcinogenicity:

#### 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.

#### ACGIH

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

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Hazardous components

Component / CAS-No.	Weight percent
1,2-dihydropyridazine-3,6-dione, monopotassium salt 28382-15-2	21.7 %
Alcohols, C11-14-iso-, C13-rich, ethoxylated 78330-21-9	5 - 10 %

## SECTION 4. FIRST AID MEASURES

### First aid procedures

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

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.

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



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Ingestion : 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.

#### Notes to physician

Symptoms : No information available.

Risks : No information available.

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

### SECTION 5. FIREFIGHTING MEASURES

#### Flammable properties

Flash point : Remarks: not applicable, (as aqueous solution)

#### Fire fighting

Suitable extinguishing media : Extinguishing media - large fires  
Alcohol-resistant foam  
(on small fires)  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Water spray

Unsuitable extinguishing media : Water spray jet

Further information : Use water spray to cool unopened containers.  
Prevent fire extinguishing water from contaminating surface water or the ground water system.

#### Protective equipment and precautions for firefighters

Specific hazards during firefighting : No information available.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Complete suit protecting against chemicals  
Full protective flameproof clothing

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Ensure adequate ventilation.  
Wear suitable protective clothing, gloves and eye/face protection.  
Avoid contact with skin and eyes.

Environmental precautions : Do not allow material to contaminate ground water system.  
Do not allow uncontrolled discharge of product into the environment.



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- Methods for containment /  
Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Shovel into suitable container for disposal.  
Large spills should be collected mechanically (remove by pumping) for disposal.  
Ventilate the area.
- Additional advice : Keep in properly labelled containers.  
Dispose of rinse water as waste water.

#### SECTION 7. HANDLING AND STORAGE

##### Handling

- Handling procedures : Handle and open container with care.  
Protect from contamination.  
Use only in well-ventilated areas.  
In case of insufficient ventilation, wear suitable respiratory equipment.  
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.

##### Storage

- Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place.  
Keep only in the original container.
- Other data : Stable at normal ambient temperature and pressure.

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

##### Exposure Guidelines

##### Engineering measures

- 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

- Eye protection : Safety glasses with side-shields  
or  
Safety goggles
- Hand protection : Chemical resistant protective gloves
- Skin and body protection : Long sleeved clothing



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- Remove and wash contaminated clothing before re-use.  
To protect against splashes from pouring:  
Rubber or plastic boots  
Rubber or plastic apron
- 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)
- 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.  
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

- Form : liquid  
Colour : clear  
colourless  
to  
light yellow
- Odour : slight

##### Safety data

- Flash point : Note: not applicable, (as aqueous solution)
- pH : 8.5 - 9.5
- Vapour pressure : no data available
- Density : 1.135 g/cm<sup>3</sup>  
at 77 °F (25 °C)
- Water solubility : Note: completely miscible
- Viscosity, dynamic : 3 mPa.s  
at 77 °F (25 °C)
- Evaporation rate : 0.22  
Note: (Butyl acetate = 1)



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#### SECTION 10. STABILITY AND REACTIVITY

- Conditions to avoid : Remarks: Extremes of temperature and direct sunlight.
- Materials to avoid : Remarks: Oxidizing agents  
Strong acids and strong bases
- Hazardous decomposition products : Note: Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide  
nitrogen oxides (NO<sub>x</sub>)
- Hazardous reactions : Hazardous polymerisation does not occur.

#### SECTION 11. TOXICOLOGICAL INFORMATION

- Acute oral toxicity : LD50: > 5,000 mg/kg  
Species: rat
- Acute inhalation toxicity : LC50: > 5.8 mg/l  
Exposure time: 4 h  
Species: rat
- Acute dermal toxicity : LD50: > 5,000 mg/kg  
Species: rat
- Skin irritation : Species: rabbit  
Result: slight irritation
- Eye irritation : Species: rabbit  
Result: Mild eye irritation
- Sensitisation : Species: guinea pig  
Remarks: Non sensitizing.

##### Toxicology Assessment

- CMR effects : Carcinogenicity:  
negative  
Mutagenicity:  
negative  
Reproductive toxicity:  
negative



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### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity effects

##### Toxicity to fish

1,2-dihydropyridazine-3,6-dione, monopotassium salt : LC50: > 1,000 mg/l  
Exposure time: 96 h

Species: Oncorhynchus mykiss (rainbow trout)  
static test  
LC50: > 104 mg/l  
Exposure time: 96 h

Species: Cyprinodon variegatus (sheepshead minnow)  
flow-through test Analytical monitoring: yes

##### Toxicity to daphnia and other aquatic invertebrates

1,2-dihydropyridazine-3,6-dione, monopotassium salt : EC50: > 1,000 mg/l  
Exposure time: 48 h  
Species: Daphnia magna (Water flea)

##### Toxicity to algae

1,2-dihydropyridazine-3,6-dione, monopotassium salt : IC50: > 102 mg/l  
Exposure time: 5 d  
Species: Skeletonema costatum (marine diatom)  
static test Analytical monitoring: yes

IC50: > 95 mg/l  
Exposure time: 5 d  
Species: Freshwater algae  
static test Analytical monitoring: yes

##### Toxicity to fish (Chronic toxicity)

1,2-dihydropyridazine-3,6-dione, monopotassium salt : NOEC: 120 mg/l  
Exposure time: 7 d  
Species: Danio rerio (zebra fish)

#### Elimination information (persistence and degradability)

Bioaccumulation : Remarks:  
no data available

Mobility : Remarks:  
no data available

Biodegradability : Remarks:  
no data available

#### Further information on ecology

#### Ecotoxicology Assessment



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Results of PBT assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

### SECTION 13. DISPOSAL CONSIDERATIONS

Further information : Dispose of waste material in compliance with all federal, state, and local regulations.

### SECTION 14. TRANSPORT INFORMATION

#### DOT

UN number : 3082  
Description of the goods : Environmentally hazardous substances, liquid, n.o.s.  
(Maleic hydrazide)  
Class : 9  
Packing group : III  
ERG Code : 171

#### **TDG**

Not dangerous goods

#### **IATA**

UN number : 3082  
Description of the goods : Environmentally hazardous substance, liquid, n.o.s.  
(Maleic hydrazide)  
Class : 9  
Packing group : III  
Labels : 9  
Environmentally hazardous : no

#### **IMDG**

Not dangerous goods

#### **RID**

Not dangerous goods

Not regulated by DOT and TDG if shipped or transported in packaging less than 12,617 liters by road and/or rail.

### SECTION 15. REGULATORY INFORMATION

**OSHA Hazards** : This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

**CERCLA Reportable Quantity** :

ethylene oxide 75-21-8 10 lbs  
pyridazine-3,6-diol 123-33-1 5000 lbs

**SARA 302 Reportable Quantity** :





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**SARA 311/312 Hazards** : Acute Health Hazard

#### EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO - KNOW

**SARA 302 Reportable  
Quantity** :

ethylene oxide 75-21-8 1000 lbs

**SARA 304 Components** : Calculated RQ exceeds reasonably attainable upper limit.  
ethylene oxide 75-21-8 10 lbs

**California Prop. 65  
Components** : WARNING! This product contains a chemical known to the State of California to  
cause cancer.

Oxirane 75-21-8 ethylene  
oxide

WARNING! This product contains a chemical known to the State of California to  
cause birth defects or other reproductive harm.

Oxirane 75-21-8 ethylene  
oxide

#### SECTION 16. OTHER INFORMATION

##### Further information

**HMIS Classification** : Health hazard: 3  
Flammability: 1  
Reactivity: 0  
PPI: Ask supervisor or safety specialist for handling instructions



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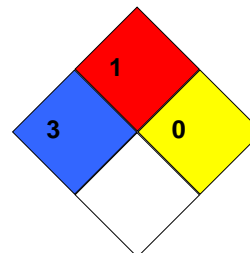
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**NFPA Classification** : Health hazard: 3  
Fire Hazard: 1  
Reactivity Hazard: 0



### Other Emergency Phone Number

<u>Latin America:</u>	Brazil	+55 113 711 9144
	All other countries	+44 (0) 1235 239 670
<u>Mexico:</u>		+52 555 004 8763

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.