



Material Safety Data Sheet

Emerald Innovation™ NH-1

Version: 1.2

Revision Date: 10/03/2012

Print Date: 08/22/2013

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: *Emerald Innovation™ NH-1*

Product Use Description: Fire retardant

Chemical nature: Organophosphate
Aryl phosphate
Mixture

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

10/03/2012

MSDSRequest@chemtura.com

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Caution

Form: liquid Colour: white to straw coloured Odour: no data available

Hazard Summary : May cause eye, skin, and respiratory tract irritation.
Normal precautions common to safe manufacturing practice should be followed in handling and storage.

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

Potential Health Effects



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Primary Routes of Entry	: Inhalation Ingestion Skin contact
Aggravated Medical Condition	: None reported.
Inhalation	: May cause mild respiratory tract irritation. May cause irritation of the mucous membranes.
Skin	: Causes mild skin irritation.
Eyes	: Mild eye irritation
Ingestion	: May cause nervous system effects.
Chronic Exposure	: Prolonged or repeated contact may cause the following: Breathing difficulties Peripheral nervous system disorders Heart inflammation
Symptoms of Overexposure	: None known.
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.
Carcinogenicity: 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
Phosphate	>= 10 - < 30 %



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SECTION 4. FIRST AID MEASURES

First aid procedures

- Inhalation : Remove to fresh air.
Get medical attention.
- Skin contact : Remove/Take off immediately all contaminated clothing.
Wash skin thoroughly with soap and water for at least 15 minutes.
If skin irritation occurs: Get medical advice/ attention.
- Eye contact : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes.
Get medical attention.
- Ingestion : If conscious, make the victim drink the following:
Drink 1 or 2 glasses of water.
Get medical attention immediately.

Notes to physician

- Symptoms : None known.
- Treatment : For specialist advice physicians should contact the Poisons Information Service.

SECTION 5. FIREFIGHTING MEASURES

Flammable properties

- Flash point : 496 °F (258 °C)
Method: Cleveland open cup

Fire fighting

- Suitable extinguishing media : All conventional media are suitable.
- Further information : In the event of fire, wear self-contained breathing apparatus.
Wear personal protective equipment.

Protective equipment and precautions for firefighters

- Specific hazards during firefighting : Burning produces noxious and toxic fumes.
Thermal decomposition can lead to release of irritating gases and vapours.
Container may explode if heated.
Keep containers and surroundings cool with water spray.
The product is not flammable.
- Special protective equipment for firefighters : Wear self contained breathing apparatus for fire fighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : For personal protection see section 8.



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- Environmental precautions : Do not flush into surface water or sanitary sewer system.
Avoid release to the environment.
- Methods for containment /
Methods for cleaning up : Dam up.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Pick up and transfer to properly labelled containers.

SECTION 7. HANDLING AND STORAGE

Handling

- Handling procedures : Handle in accordance with good industrial hygiene and safety practice.
Avoid contact with skin, eyes and clothing.
Use personal protective equipment as required.
Keep away from fire, sparks and heated surfaces.
Use only in well-ventilated areas.
Do not breathe vapours or spray mist.

Storage

- Requirements for storage areas and containers : Keep in a dry, cool and well-ventilated place.
Keep container tightly closed.
Protect from contamination.

- Other data : Stable under normal conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Components with workplace control parameters

Components / CAS-No.	Value / Basis / Update	Control parameters	Further information
triphenyl phosphate 115-86-6	TWA ACGIH 2007-01-01	3 mg/m3	
	TWA OSHA P1 1997-08-04	3 mg/m3	
	TWA OSHA P0 1989-01-19	3 mg/m3	

Engineering measures

- Engineering measures : Avoid formation of dust and aerosols.
Use local ventilation to keep levels below established threshold values.



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Use adequate ventilation and/or engineering controls in high temperature processing to prevent exposure to vapors.
In case of inadequate ventilation wear respiratory protection.
Adequate general ventilation is recommended when handling to control airborne levels.
Use mechanical ventilation for general area control.

Personal protective equipment

Eye protection : Safety goggles
or
Face-shield

Hand protection : Impervious gloves

Skin and body protection : To protect against splashes from pouring:
Chemical resistant apron
impervious clothing
Rubber or plastic boots

Respiratory protection : Wear a NIOSH/MSHA approved organic cartridge respirator in high temperature applications if misting or vapor occurs, or there is potential for airborne exposures to exceed established threshold values.
A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
Wear a NIOSH/MSHA approved self-contained breathing apparatus in emergency situations.

Hygiene measures : Wash thoroughly after handling.
Wash contaminated clothing before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form : liquid
Colour : white
to
straw
coloured

Odour : no data available

Safety data

Flash point : 496 °F (258 °C)
Method: Cleveland open cup

Vapour pressure : no data available



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SECTION 10. STABILITY AND REACTIVITY

- Conditions to avoid : Remarks: Heat, flames and sparks.
Contamination
- Materials to avoid : Remarks: Strong oxidizing agents
- Hazardous decomposition products : Note: Oxides of phosphorus
Carbon dioxide (CO₂)
Carbon monoxide
- Hazardous reactions : Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

- Acute oral toxicity : Remarks: Not classified due to lack of data.
- Acute inhalation toxicity : Remarks: Not classified due to lack of data.
- Acute dermal toxicity : Remarks: Not classified due to lack of data.
- Skin irritation : Remarks: Not classified due to lack of data.
- Eye irritation : Remarks: Not classified due to lack of data.
- Sensitisation : Remarks: Not classified due to lack of data.
- Aspiration toxicity : No aspiration toxicity classification

Toxicology Assessment

- CMR effects : Carcinogenicity:
Not classified due to lack of data.
Mutagenicity:
Not classified due to lack of data.
Reproductive toxicity:
Not classified due to lack of data.

- Further information : No data is available on the product itself.



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12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish :
Remarks:
no data available

Toxicity to daphnia and other aquatic invertebrates : Remarks:
no data available

Toxicity to algae triphenyl phosphate : NOEC: 0.25 - 2.5 mg/l
Exposure time: 72 h
Species: Green algae (*Scenedesmus subspicatus*)
Growth inhibition Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) triphenyl phosphate : NOEC: 0.037 mg/l
Exposure time: 30 d
Species: *Oncorhynchus mykiss* (rainbow trout)

Elimination information (persistence and degradability)

Bioaccumulation : Remarks:
no data available

Mobility : Remarks:
no data available

Biodegradability : Result: no data available

Further information on ecology

Ecotoxicology Assessment

Results of PBT assessment

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

Additional ecological information : Avoid release to the environment.
The product itself has not been tested.

SECTION 13. DISPOSAL CONSIDERATIONS

Further information : Dispose of waste material in compliance with all federal, state, and local regulations.
Dispose of wastes in an approved waste disposal facility.
If this product was supplied in a single use container, care should be taken to dispose of the container in a responsible manner and in accordance with applicable regulations.



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SECTION 14. TRANSPORT INFORMATION

DOT

UN number : 3082
Description of the goods : Environmentally hazardous substances, liquid, n.o.s.
(Phenol, isobutyleneated, phosphate [Triphenyl phosphate $\geq 0.25 \leq 25\%$])
Class : 9
Packing group : III
ERG Code : 171

IATA

UN number : 3082
Description of the goods : Environmentally hazardous substance, liquid, n.o.s.
(Phenol, isobutyleneated, phosphate [Triphenyl phosphate $\geq 0.25 \leq 25\%$])
Class : 9
Packing group : III
Labels : 9
Environmentally hazardous : yes

IMDG

UN number : 3082
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Phenol, isobutyleneated, phosphate [Triphenyl phosphate $\geq 0.25 \leq 25\%$])
Class : 9
Packing group : III
EmS Number 1 : F-A
EmS Number 2 : S-F
Marine pollutant : yes
Phenol, isobutyleneated, phosphate [Triphenyl phosphate $\geq 0.25 \leq 25\%$]
Environmentally hazardous : yes
Phenol, isobutyleneated, phosphate [Triphenyl phosphate $\geq 0.25 \leq 25\%$]

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 :

SARA 302 Reportable Quantity :

SARA 311/312 Hazards : Chronic Health Hazard



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EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO - KNOW

**SARA 302 Reportable
Quantity**

phenol 108-95-2	10000 lbs
phenol 108-95-2	500 lbs
phenol 108-95-2	500 lbs
phenol 108-95-2	500 lbs
phenol 108-95-2	500 lbs

California Prop. 65 Components : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

US.TSCA	On TSCA Inventory
DSL	All components of this product are on the Canadian DSL list.
AICS	On the inventory, or in compliance with the inventory
NZIoC	On the inventory, or in compliance with the inventory
ENCS	On the inventory, or in compliance with the inventory
KECI	On the inventory, or in compliance with the inventory
PICCS	On the inventory, or in compliance with the inventory
IECSC	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information

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



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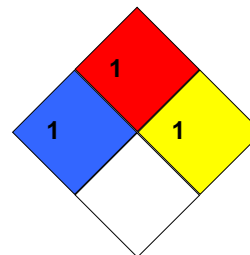
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NFPA Classification

: Health hazard: 1
Fire Hazard: 1
Reactivity Hazard: 1



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.