

00

Monsanto

MONSANTO INDUSTRIAL CHEMICALS CO.
800 N. Lindbergh Boulevard
St. Louis, Missouri 63167
Phone: (314) 894-1000

June 4, 1985

FYI-OTS-0685-0402 FLWP
SEQUENCE G

1985 JUN 11 PM 10:35

Document Control Officer (Attn: T. O'Bryan)
Information Management Division (TS-793)
Office of Toxic Substances
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

RECEIVED
6/12/85
TBB/CSB

Gentlemen:

This communication is in response to your letter of April 23, 1985 requesting unpublished information on 4-Nonylphenol for preparation of a CHIP document.

Product Description:

Monsanto produces a technical grade of Nonylphenol. The CAS No. is 25154-52-3 which your letter identifies as "mixed" isomers.

Health Effects

Health Effects are listed in the Physiological Effects Summary section of the attached MSDS. If additional details are needed, please let me know.

Environmental Effects

The MSDS lists a 96-hr LC₅₀ for Nonylphenol in fathead minnows. In addition, Monsanto has determined the Environmental Toxicity of Nonylphenol to Daphnia magna. These values are:

| | |
|--|-----------|
| 24-hr LC ₅₀ <u>Daphnia magna</u> | 0.48 mg/l |
| 48-hr LC ₅₀ <u>Daphnia magna</u> | 0.44 mg/l |
| No effect concentration <u>Daphnia magna</u> | 0.25 mg/l |

Document Control Officer
(Attn: T. O'Bryan)
June 4, 1985
Page 2

Uses

Applications for Nonylphenol are listed in the attached Product Data Sheet.

Worker Exposure

There are a total of twelve (12) employees in the manufacture, storage and shipping areas. Potential exposure is minimal due to the low vapor pressure of Nonylphenol and occurs primarily when sampling and loading product.

Environmental Exposure

Wastewater from the manufacturing area is discharged into the Publicly Owned Treatment Works (POTW).

If you need any other information, please let me know and I will try to furnish it.

Sincerely,


Gilbert J. McEwan
Manager, Product Acceptability

/ku
Enclosure

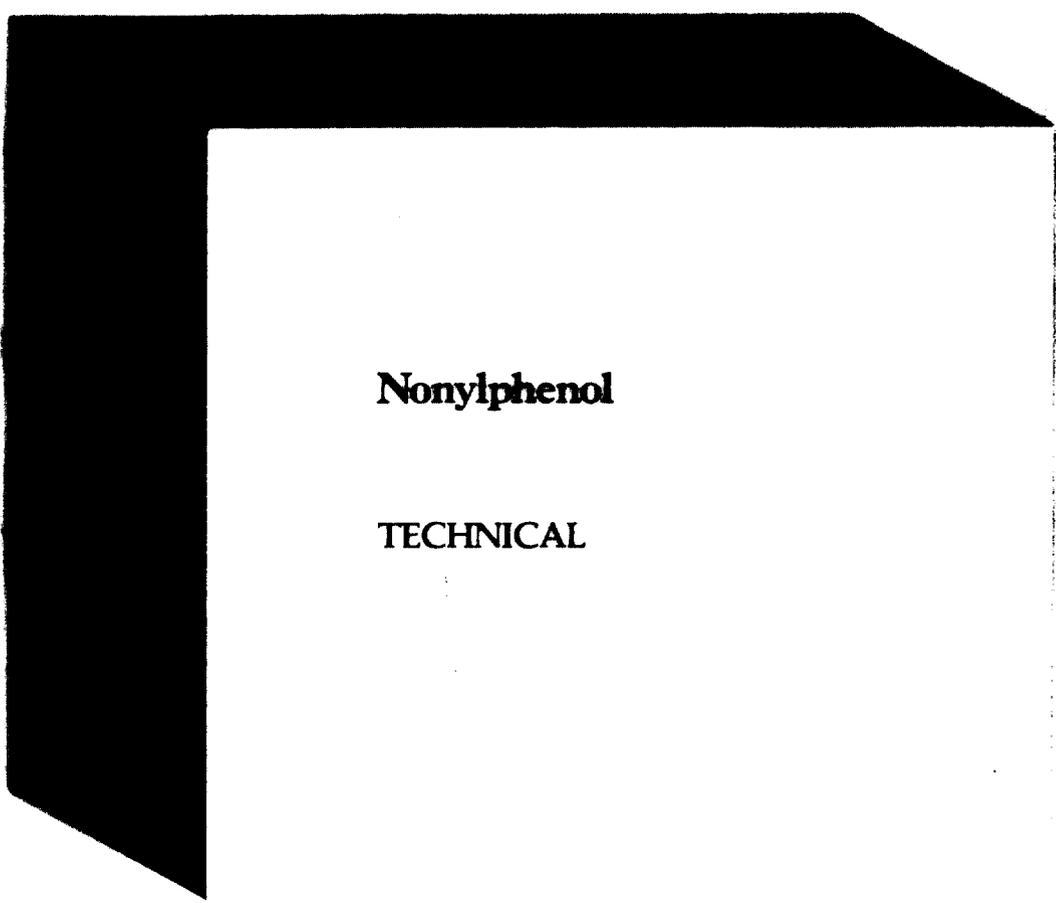
NONYLPHENOL

Monsanto

**Nonylphenol
TECHNICAL**



**Detergent
Materials**



Nonylphenol

TECHNICAL

PRODUCT DATA SHEET

**Date Effective:
October 1983**

MONSANTO PRODUCT NAME

NONYLPHENOLMONSANTO COMPANY
800 N. LINDBERGH BLVD.
ST. LOUIS, MO 63167**Emergency Phone No.**
(Call Collect)
314-694-1000**PRODUCT IDENTIFICATION**

Synonyms: 4-Nonylphenol; NP

Chemical Formula: $C_9H_{19}C_6H_4OH$

CAS No.: 25154-52-3

DOT Proper Shipping Name: ORM-A n.o.s. via Air

DOT Hazard Class/ I.D. No.: ORM-A via Air/NA1693

DOT Label(s): Not Applicable

Hazardous Substance(s)/ RQ(s): Not Applicable

U.S. Surface Freight Classification: Nonylphenol (Chemicals, NOIBN)

WARNING STATEMENTS

WARNING!
CAUSES IRRITATION

PRECAUTIONARY MEASURES

Avoid contact with eyes, skin and clothing.
Wash thoroughly after handling.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

EMERGENCY AND FIRST AID PROCEDURES

FIRST AID: IF IN EYES, immediately flush with plenty of water for at least 15 minutes.
Call a physician.

IF ON SKIN, immediately flush with plenty of water. Remove contaminated clothing.
Wash clothing before reuse.

OCCUPATIONAL CONTROL PROCEDURES

Eye Protection: Wear chemical safety goggles to prevent eye contact. Have eye baths immediately available where eye contact can occur.

Skin Protection: Wear impervious gloves and protective clothing to prevent skin contact. Wear face shields and impervious aprons when splashing is likely. Remove contaminated clothing promptly and launder before reuse. Provide safety showers at any location where skin contact can occur. Wash hands and contaminated skin thoroughly after handling.

(Occupational Control Procedures Continued On Next Page)

OCCUPATIONAL CONTROL PROCEDURES (Continued)

Respiratory

Protection: Use NIOSH approved equipment with full facepiece when airborne exposure is excessive. Consult respirator manufacturer to determine appropriate type equipment for given application.

Ventilation: Provide ventilation to minimize exposure. Local exhaust ventilation preferred.

Airborne

Exposure Limits: Product: Nonylphenol wt. % ca 90

OSHA PEL/TWA: None Established

ACGIH TLV/TWA: None Established

FIRE PROTECTION INFORMATION

Flash Point: 300°F **Method:** Cleveland Open Cup

Extinguishing Media: Water spray, foam, CO₂ or dry chemical.

Special Firefighting Procedures:

Wear self-contained breathing apparatus when exposure to vapors or products of combustion is possible. Full protective clothing to avoid skin contact should be worn.

REACTIVITY DATA

Materials to Avoid: Keep away from strong oxidizing agents.

Hazardous Decomposition

Products: CO, CO₂, smoke, soot and phenolics can be produced.

Hazardous Polymerization: Does not occur.

PHYSIOLOGICAL EFFECTS SUMMARY

Oral LD₅₀ (Rat): 1,300 mg/kg, Slightly Toxic

Dermal LD₅₀ (Rabbit): >2,000 mg/kg <3,160 mg/kg, Slightly Toxic

Eye Irritation (Rabbit): (FHSA) 58.0 on a scale of 110.0, Severely Irritating

Skin Irritation (Rabbit): (FHSA) 8.0 on a scale of 8.0, Severely Irritating

PHYSICAL DATA

Appearance and Odor: Clear, viscous liquid; characteristic phenolic odor

**Boiling Point @
760 mm Hg:** 258°C

**Specific Gravity @
100°C/20°C:** 0.930

**Viscosity @ 100°C
(centistokes):** 7.18

**Reid Vapor Pressure @
100°F (lbs.):** 0.58

Solubility: Practically insoluble in water (0.00024 g/g H₂O @ 25°C); soluble in most organic solvents

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

NONYLPHENOL

MATERIAL SAFETY DATA

SPILL, LEAK & DISPOSAL INFORMATION

Waste Disposal: Discarded product should be incinerated or placed in an approved landfill in accordance with local, state and federal regulations.

**Spill or Leakage
Procedures:**

Contain spillage and absorb on sawdust or soil. Incinerate or place in an approved landfill in accordance with local, state and federal regulations.

ADDITIONAL COMMENTS

This product can be stored in heresite-lined or stainless steel tanks. Dried air or nitrogen padding may be necessary. For outdoor storage, heating coils and/or insulation may be desirable to maintain fluidity.

Environmental Toxicity Information:

96-hr LC₅₀ Fathead Minnow: 0.3 mg/l, Highly Toxic

DATE: 10/1/83

REVISED: X

SUPERSEDES: 9/78

MSDS NO.: 025154523

FOR ADDITIONAL NON-EMERGENCY INFORMATION, CONTACT:

Product Acceptability Coordinator
Detergent Materials
Monsanto Industrial Chemicals Company
314-694-2096
(A Unit of Monsanto Company)

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Monsanto Company makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Monsanto Company be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

This form has been approved by the Occupational Safety and Health Administration as "equivalent to" OSHA Form 20.

Product: Nonylphenol

Grade: Technical

General Description: A clear, viscous liquid

Code No.: 6500-00

CAS No.: 25154-52-3

Molecular Weight: 220-235

Formula: $C_9H_{19}-\text{C}_6\text{H}_5-\text{OH}$

Specifications:

| | |
|-------------------------------------|--|
| Appearance | Clear liquid with no foreign matter |
| Color, APHA (as shipped) | 60 Maximum |
| Odor | No foreign odor; characteristic phenolic |
| Moisture, Karl Fischer | 0.05% Maximum |
| Hydroxyl Number | 240-255 |
| Distillation Range, ASTM D-1078-70: | |
| 1st Drop | 288°C Minimum |
| 5% | 291°C Minimum |
| 95% | 312°C Maximum |
| Dry Point | 319°C Maximum |

Typical Values: *(Based on material tested in our laboratories, but variable from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.)*

| | |
|--------------------------|----------------|
| Appearance | Clear liquid |
| Color, APHA (as shipped) | 45 |
| Moisture, Karl Fischer | 0.04% |
| Ash | 0.01% |
| Active | 97.5% |
| Specific Gravity @ 25°C | 0.937 |
| Lbs./gallon | 7.87 (approx.) |

Note: *Both specifications and typical values are subject to change from time to time. Please write us for our current Data Sheet.*

Production Location: Kearny, NJ

Packaging: 55 gallon metal drums, tank trucks and tank cars
Drums: tare weight-46 lbs.; net weight-415 lbs.; export cube-10.715 ft.³

Labeling Requirements: Product label required by law.

Shipping Classification: Nonylphenol (Chemicals, NOIBN)

Handling Precautions: WARNING! CAUSES IRRITATION. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. FIRST AID: IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Call a physician. IF ON SKIN, immediately flush with plenty of water. Remove contaminated clothing. Wash clothing before reuse.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

Nonylphenol

Key Properties: Nonylphenol is manufactured by the alkylation of phenol with an appropriate olefin. The reactive hydroxyl group permits a multiplicity of reactions. These include ethoxylation, etherification, esterification, halogenation, mercuration, nitration, polymerization, salt formation and sulfonation.

- Applications:**
- Nonionic surfactants
 - Anionic surfactants
 - Dispersants
 - Emulsifiers
 - Souring agents
 - Wetting agents
 - Antioxidants
 - Antisludge agents
 - Biocides
 - Corrosion inhibitors
 - Laminating resins
 - Thermosetting resins
 - Lacquers, Varnishes
 - Styrene copolymers
 - Resin stabilizers
 - Rubber stabilizers
 - Fuel oil stabilizers
 - Leveling agents
 - Oil additives
 - Deemulsifiers
 - Rubber accelerators
 - Printing inks
 - Remoisturable adhesives
 - Epoxy resins

For further information, please contact your nearest Monsanto Detergent Materials Sales Office.

DETERGENT MATERIALS

MONSANTO INDUSTRIAL CHEMICALS CO./800 N. LINDBERGH BLVD./ST. LOUIS, MISSOURI 63167

A UNIT OF MONSANTO COMPANY

NOTICE: Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Monsanto Company makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Monsanto Company be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. Nothing contained herein is to be construed as a recommendation to use any product, process, equipment or formulation in conflict with any patent and Monsanto makes no representation or warranty, express or implied, that the use thereof will not infringe any patent. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

DETERGENT MATERIALS SALES OFFICES

AKRON, OHIO
260 Springside Drive
Montrose Development Park
44313
Tel. (216) 666-4111

ATLANTA, GEORGIA
320 Interstate North Parkway
Suite 500
30339
Tel. (404) 951-7600

BIRMINGHAM, MICHIGAN
30400 Telegraph Road
Suite 460
48010
Tel. (313) 645-5420

CHICAGO, ILLINOIS
9701 West Higgins Rd.
Suite 500
Rosemont, Illinois
60018
Tel. (312) 823-9050

CINCINNATI, OHIO
Whitehall Bldg.
8041 Hosbrook Road
45236
Tel. (513) 984-1100

HOUSTON, TEXAS
1300 Post Oak Tower Bldg.
5051 Westheimer Road
77056
Tel. (713) 877-5999

KENILWORTH, NEW JERSEY
North 8th Street & Monroe Avenue
07033
Tel. (201) 276-2900

LOS ANGELES, CALIFORNIA
1401 Dove Street
Suite 350
Newport Beach, California
92663
Tel. (714) 553-7700

ST. LOUIS, MISSOURI
800 N. Lindbergh Blvd.
63167
Tel. (314) 694-1000
*Toll Free (800) 325-4330

*Customer Order Processing Department