



Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300 or 202-483-7616

MATERIAL SAFETY DATA SHEETS

Part Number/Trade Name: N,N- DIMETHYL FORMAMIDE
This MSDS is valid for all grades that start with catalog number 324

General Information

Manufacturer:	PHARMCO-AAPER 58 Vale Road Brookfield, CT 06804 Phone (203) 740-3471 Fax (203) 740-3481	1101 Isaac Shelby Drive Shelbyville, KY 40065 Phone (502) 633-0650 Fax (502) 633-0685
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Ingredients/Identity Information

Ingredient: DIMETHYLFORMAMIDE	CAS Number: 68-12-2
Ingredient Sequence Number: 01	OSHA PEL: S, 10 PPM
Percent: 100	ACGIH TLV: S, 10 PPM; 9192
NIOSH (RTECS) Number: LQ2100000	

Physical/Chemical Characteristics

APPEARANCE AND ODOR: Liquid, clear, colorless, slight amine odor.	Evaporation Rate And Ref: <1.0,BUTYL ACETATE
Boiling Point: 307F, 153C	Solubility In Water: COMPLETE
Vapor Pressure (MM Hg/70 F): 2.6 MM HG	Percent Volatiles by Volume: 100
Vapor Density (Air=1): 2.5	pH: 8(20%)
Specific Gravity: 0.95	Autoignition Temperature: 833F
Decomposition Temperature: >662F, >350C	

Fire and Explosion Hazard Data

Flash Point: 136F/58C TCC
Lower Explosive Limit: 2.2
Upper Explosive Limit: 15.2
EXTINGUISHING MEDIA: Water fog, alcohol resistant foam, dry chemical, CO².
SPECIAL FIRE FIGHTING PROCEEDURE: Evacuate enclosed areas. Keep personnel upwind, use respiratory equipment.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Combustible. Vapors heavier than air.

Reactivity Data

Stability: NO	TRIETHYL(SUPP).
Conditions To Avoid (Stability):	Hazardous Decomposition Products:
HALOGENATED COMPS IN PRESENCE	TEMPS>662F/350C MAY RELEASE
OF FE, MGNO*3,	DIMETHYLAMINE &
ALUMINUM TRIETHY	CARBON MONOXIDE
Materials To Avoid: HALOGEN COMPOUNDS	Hazardous Poly Occur: NO
IN PRESENCE OF FE, MGNO*3 ALUM	

Health Hazard Data

LD50-LC50 Mixture: ORAL LD50 (RATS) = 2,800 MG/KG

Route of Entry - Inhalation: YES

Route of Entry - Skin: YES

Route of Entry - Ingestion: YES

Health Hazards Acute and Chronic:

INHALATION- Irritation of the upper respiratory passages; Abnormal liver function.

SKIN- Irritation

EYES- Severe Irritation

INGESTION- Irritation of the digestive tract.

Carcinogenicity - NTP: NO

Carcinogenicity - IARC: NO

Carcinogenicity - OSHA: NO

Explanation Carcinogenicity: Not applicable

Signs/Symptoms of Over-exposure:

INGESTION- Stomach pain, heartburn, nausea, vomiting or diarrhea.

SKIN- Rash, swelling, redness, and wrinkling of the skin. May cause headache, or weakness, abdominal discomfort, or abnormal liver function.

EYES- Discomfort, tearing or blurring of vision.

INHALATION- Irritation of the upper respiratory system.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing diseases of the liver may have increased susceptibility to the toxicity of excessive exposures.

EMERGENCY/FIRST AID PROCEEDURE:

INHALATION - Immediately remove to fresh air. Administer appropriate breathing support measures.

SKIN - Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing.

EYES - Immediately flush with plenty of water for at least 15 minutes.

INGESTION – **Do not induce vomiting.** Immediately give 2 glasses of water. Call a physician.

Precautions for Safe Handling and Use

STEPS IF MATERIAL IS RELEASED/SPILLED: Dike spill with sand or earth. Absorb with sand or non-flammable absorbent material and transfer into steel drums for recovery or disposal. Flush away remaining traces with water.

WASTE DISPOSAL METHOD: Comply with federal, state and local regulations. If approved, can be disposed of by incineration, bio-oxidation or by removal to licensed hazardous material landfill.

PRECAUTIONS-HANDLING/STORING: Keep container tightly closed and in a cool place. Keep away from fire, sparks & flame. Avoid breathing vapor. Avoid contact with eyes, skin & clothing.

OTHER PRECAUTIONS: Wash thoroughly after handling.

Control Measures

RESPIRATORY PROTECTION: Chemical suit with breathing air supply if there is chance of exposure.

VENTILATION: Provide mechanical (Gen/Local Exhaust) vent to maintain < TLV.

PROTECTIVE GLOVES: DMF-Resistant.

EYE PROTECTION: Chemical splash goggles.

OTHER PROTECTIVE EQUIPMENT: Boots and apron (such as butyl rubber).

Supplied Safety & Health Data: MSDS DATED: 12/76, DATA SHEET #E-04647.

Transportation Data

Trans Data Review Date: 86288

DOT PSN Code: FGT

DOT Proper Shipping Name: N, N-DIMETHYLFORMAMIDE *

DOT Class: 3
DOT ID Number: UN2265
DOT Pack Group: III
DOT Label: FLAMMABLE LIQUID
IMO PSN Code: FYM
IMO Proper Shipping Name: N,N-DIMETHYLFORMAMIDE *
IMO Regulations Page Number: 3335
IMO UN Number: 2265
IMO UN Class: 3.3
IMO Subsidiary Risk Label: -
IATA PSN Code: JYL
IATA UN ID Number: 2265

IATA Proper Shipping Name: N, N-DIMETHYLFORMAMIDE *
IATA UN Class: 3
IATA Label: FLAMMABLE LIQUID
AFI PSN Code: JYL
AFI Prop. Shipping Name: N,N-DIMETHYLFORMAMIDE *
AFI Class: 3
AFI ID Number: UN2265
AFI Pack Group: III
AFI Label: FLAMMABLE LIQUID
AFI Basic Pac Ref: 7-7
Additional Trans Data: MMAC-CM,

Disposal Data

Landfill Ban Item: YES
Disposal Supplemental Data: MSDS DATED: 12/76, DATA SHEET #E-04647. In case of accidental exposure or discharge, consult health and safety file for precautions.
1st EPA Hazardous Waste Code New: D001

1st EPA Hazardous Waste Name New: IGNITIBLE
1st EPA Hazardous Waste Char New: IGNITABILITY
1st EPA Acute Hazard New: NO

Label Data

Label Required: YES
Technical Review Date: 03OCT94
Label Status: F
Common Name: DIMETHYLFORMAMIDE
Chronic Hazard: YES
Signal Word: WARNING!
Acute Health Hazard-Slight: X
Contact Hazard-Slight: X
Fire Hazard-Moderate: X
Reactivity Hazard-Slight: X
Special Hazard Precautions:
INHALATION- IRRITATION OF THE UPPER RESPIRATORY PASSAGES; ABNORMAL LIVER FUNCTION. IMMEDIATELY REMOVE TO FRESH AIR. ADMINISTER APPROPRIATE BREATHING SUPPORT MEASURES.
SKIN- Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing.
EYES- Immediately flush with plenty of water for at least 15 minutes.
INGESTION- Do not induce vomiting. Immediately give 2 glasses of water. Call a physician.
PROTECT EYE: Yes
PROTECT SKIN: Yes
PROTECT RESPIRATORY: Yes

Regulatory Data

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal or greater than the reportable quantities (RQs) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are:

Chemical Name	CAS Number	RQ
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Dimethylformamide	68-12-2	100lb
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The information contained herein is based on data considered to be accurate. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. It is the user's obligation to determine the conditions of safe use of the product.