

Foampak Stripper #3 Component A

DIBASIC ESTER(DBE)/HIGH BOILING POINT SOLVENT

Preparation Date: 16-Dec-2018

Revision Date: 07-Nov-2018

Revision #3

1 Product and company identification

Product Name : Dibasic ester(MDBE)/High boiling point solvent

Use : It is widely used in the paints and coatings,inks,fourdry chemical and so on.Also
it is one kind of environmental protection cleanser and paint remover.

Supplier : Quaker City Chemicals, Inc.

Name : 7360 Milnor Street

Address : Philadelphia, PA 19136

Telephone number : 215-333-2000

Fax number: 215-333-4408

Emergency Phone : ChemTrec 1-800-424-9300 Outside of the United States: 1-703-527-3887

2 Composition / information on ingredients

SUBSTANCE

Common chemical name : Dibasic ester(DBE)/High boiling point solvent

Composition:	Material	Cas No.	%
	Dimethyl succinate	Cas No.: 106-65-0	15-25
	Dimethyl glutarate	Cas No.: 1119-40-0	55-65
	Dimethyl adipate	Cas No.: 627-93-0	10-25

3 Hazards identification

Potential Health Effects

DBE may irritate skin,eyes,nose and throat.May cause blurry vision.

Human health Effects:

Skin contact may cause skin irritation with discomfort or rash.Eye contact may cause eye irritation with discomfort,tearing,or blurring of vision.Inhalation may cause irritation of the upper respiratory passages,with coughing and discomfort.Some individuals who have been overexposed by inhalation or skin contact experienced blurry vision.

The mechanism of blurred vision in humans is unknown.

Based on observed effects from animal studies,we believe that some symptoms of pre-existing eye disease could be aggravated by overexposure to this material.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC,NTP,OSHA or Acgih as a carcinogen.

4 First-aid measures

First Aid

Inhalation

If inhaled, immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Skin contact

Flush skin with water after contact. Wash contaminated clothing before reuse.

Eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

Ingestion

If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

Notes to Physicians

Activated charcoal mixture may be beneficial. Suspend 50 g activated charcoal in 400 ml water and mix well. Administer 5 ml/kg, or 350 ml for an average adult.

5 Fire - fighting measures

Flammable properties

Flash Point : 100 C (212 F)

Method : TCC

Flammable limits in air, % by volume

LEL : 0.9

UEL : 8.0

Autoignition : 370 C (698 F)

Actual autoignition temperature (AIT) can be affected by the concentration of vapors and oxygen, vapor/air contact time, pressure, volume, catalytic impurities, etc. Process conditions should be analyzed to determine if the AIT's may be higher or lower.

Vapor forms explosive mixture with air. Hazardous gases/vapors produced in fire are carbon monoxide.

Extinguishing Media

Water Spray, Foam, Dry Chemical, CO₂.

Fire Fighting Instructions

Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment. Cool tank/container with water spray.

6 Accidental release measures

Safeguards (personnel)

NOTE: Review fire fighting measures and handling (personnel)

Sections before proceeding with clean-up. Use appropriate personal protective equipment during clean-up.

Initial Containment

Remove source of heat, sparks, flame, impact, friction or electricity. Dike spill. Prevent material from entering sewers, waterways, or low areas.

Spill clean up

Recover free liquid for reuse or reclamation.Recover undamaged and minimally contaminated material for reuse and reclamation.Soak up with sawdust,sand,oil dry or other absorbent material.

7 Handling and storage

HANDLING (Personnel)

Avoid breathing vapors or mist.Avoid contact with eyes,skin,or clothing.Wash thoroughly after handling.

STORAGE

Do not mix with strong oxidants,acids,or alkalies.Store in a well ventilated place.Keep container tightly closed.

8 Exposure controls / personal protection

Engineering Controls

Use sufficient ventilation to keep employee exposure below recommended limits.

Personal Protective Equipment

Eye/face protection

Wear safety glasses.Wear coverall chemical splash goggles when possibility exists for eye and face contact due to splashing or spraying material.

Respirator

A NIOSH approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.Protection provided by air-purifying respirators is limited.Use a NIOSH approved positive pressure air-supplied respirator if there is any potential for an uncontrolled release.exposure levels are not known,or any other circumstances where air-purifying respirators may not provide adequate protection.

Protective Clothing

Wear impervious clothing,such as gloves,apron,boots,or whole bodysuit as appropriate.

Recommended glove and clothing material:Butyl Rubber.

Exposure guidelines

Exposure Limits

DBE

PEL (OSHA): None established

TLV (ACGIH):None Established

AEL : 1.5PPM,10 mg/m³,8 Hr.TWA

This limit is for DBE.

AEL is DuPont's Acceptable Exposure Limit.Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect,such limits shall take precedence.

9 Physical and chemical properties

Physical Data

Boiling Point	: 195-230
Vapor Pressure	: 0.2 mm Hg @20 C (68 F)
Melting Point	: ~-20 C (~-4 F)
% Volatiles	: 100 WT% @ 20 C (68 F)
Evaporation Rate	: <0.1 (Butyl Acetate=1.0)
Solubility in water	: 5.3 WT % @ 20 C (68 F)
Odor	: Sweet
Odor Threshold	: 0.1ppm 100% detection

0.01 ppm 50% detection
Form : Liquid
Color : Colorless
Specific Gravity : 1.076-1.096 @ 20 C (68F)

10 Stability and reactivity

Chemical Stability

Stable

Incompatibility with Other Materials

Incompatible or can react with strong oxidizers, acids, alkalies.

Decomposition

Decomposes with heat.

Polymerization

11 Toxicological information

Animal Data

Inhalation 4-hour LC50: >11 mg/L in rats

Inhalation 1-hour LC50: >10.7 mg/L in rats

Skin absorption LD50: >2,250 mg/kg in rabbits

Oral LD50 : 8,191 mg/kg in rats

The mixture is a mild to severe skin irritant and a moderate eye irritant, but is not a skin sensitizer in animals. Toxic effects described in animals from exposure by inhalation include upper respiratory tract irritation. A single 4-four exposure to 60 ppm caused transient corneal opacity and transient increases in the distance from the cornea to the anterior surface of the lens of the eye. Toxicity described in animals from repeated exposure by inhalation include decreased weight gain, absolute and relative liver weight decrease, and degeneration of olfactory epithelium (nasal tissue).

Toxicity described in animals from repeated exposure by ingestion include weight loss, but there were no pathological abnormalities noted.

A single application of 10 ul to the eye caused corneal opacity. The administration of 10-100 ul of a similar mixture caused corneal opacity, transient increases in corneal thickness, and transient corneal anesthesia. A single application of approximately 60 mg/kg to the skin caused transient increases in the distance from the cornea to the anterior surface of the lens of the eye.

The mixture does not produce genetic damage in animals, or in bacterial cell cultures, but it was positive in one study with cultures, but it was positive in one study with cultured mammalian cells. Animal testing indicates that this mixture does not have developmental, or reproductive effects.

12 Ecological information

Ecotoxicological Information

AQUATIC TOXICITY

DIBASIC ESTER

96 hour LC50 - Fathead minnows: 18-24 mg/L.

Moderately toxic.

SARA Extremely Hazardous Substance: No
CERCLA Hazardous Substance : No
SARA Toxic Chemical :No

VOC's for DBE per the EPA Federal Register/Volume 57,
No.22/, 2/3/92/page 3945, considered to be 100% VOC
(1090 gr/ltr) .

Canadian Regulations

CLASS D Division 2 Subdivision B – Toxic Material. Skin or Eye Irritant.

16 Other information

NFPA, NPCA-HMIS

NPCA-HMIS Rating	
Health	1
Flammability	1
Reactivity	0

Personal Protection rating to be supplied by user depending on use conditions.

Additional Information

The hydrogen cyanide concentration in this product is so low (<10ppm) as to be toxicologically insignificant when this product is used as a solvent. However, when this product is chemically reacted with alcohols, and methanol is recovered from that reaction and purified for reuse by distillation, concentration of highly volatile impurities such as hydrogen cyanide to toxicologically significant levels can occur in the waste stream from this process. Processors using this product as a raw material should be aware of this potential hazard.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

End of SDS

**Foampak Stripper #3
Component B
Safety Data Sheet (SDS)**

Page 1/8

Printing date 04/17/2013

Revised on 8/1/2018

1 Product and Company Identification

- **Product identifier**
- **Trade name: N-Methyl Pyrrolidone (NMP)**
- **Article number: GrnChm NMP**
- **CAS Number:**
872-50-4
- **EC number:**
212-828-1
- **Index number:**
606-021-00-7
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Product description NMP**
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Quaker City Chemicals, Inc.
7360 Milnor Street
Philadelphia, PA 19136
Office: (215) 333-2000
Fax: (215) 333-4408
- **Emergency telephone number: Chemtrec 800-424-9300**

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

H360 May damage fertility or the unborn child.



GHS07

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H227 Combustible liquid.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

N-methyl-2-pyrrolidone

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Safety Data Sheet (SDS)

OSHA Hazard Communication Standard 29 CFR 1910.1200. Prepared to GHS
Rev03.

Printing date 04/17/2013

Revised on 8/1/2018

Trade name: N-Methyl Pyrrolidone (NMP)

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· Hazard statements

- H227 Combustible liquid.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H360 May damage fertility or the unborn child.
- H335 May cause respiratory irritation.

· Precautionary statements

Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P321 Specific treatment (see on this label).
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system: NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme**· NFPA ratings (scale 0 - 4)****· HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = *1
FIRE	2	Fire = 2
REACTIVITY	0	Reactivity = 0

· Other hazards**· Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients**· Chemical characterization: Substances****· CAS No. Description**

872-50-4 N-methyl-2-pyrrolidone

· Identification number(s)· **EC number:** 212-828-1· **Index number:** 606-021-00-7**· SVHC**

872-50-4 | N-methyl-2-pyrrolidone

4 First-aid measures**· Description of first aid measures**

- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

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Safety Data Sheet (SDS)

OSHA Hazard Communication Standard 29 CFR 1910.1200. Prepared to GHS
Rev03.

Printing date 04/17/2013

Revised on 8/1/2018

Trade name: N-Methyl Pyrrolidone (NMP)

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- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Give large amounts of water. If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Protect from heat.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

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Trade name: **N-Methyl Pyrrolidone (NMP)**

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8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

872-50-4 N-methyl-2-pyrrolidone

WEEL	10 ppm Skin
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· **Ingredients with biological limit values:**

872-50-4 N-methyl-2-pyrrolidone

BEI	100 mg/L urine end of shift 5-Hydroxy-N-methyl-2-pyrrolidone
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· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

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Trade name: N-Methyl Pyrrolidone (NMP)

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9 Physical and chemical properties**· Information on basic physical and chemical properties****· General Information****· Appearance:**

Form: Fluid
Color: Not determined.

· Odor: Amine-like**· Odour threshold:** Not determined.**· pH-value at 20 °C (68 °F):** <10**· Change in condition****Melting point/Melting range:** -24 °C (-11 °F)**Boiling point/Boiling range:** 202 °C (396 °F)**· Flash point:** 91 °C (196 °F)**· Flammability (solid, gaseous):** Not applicable.**· Ignition temperature:** 270 °C (518 °F)**· Decomposition temperature:** Not determined.**· Auto igniting:** Not determined.**· Danger of explosion:** Not determined.**· Explosion limits:****Lower:** 1.3 Vol %**Upper:** 9.5 Vol %**· Vapor pressure at 20 °C (68 °F):** 0.3 hPa**· Density at 20 °C (68 °F):** 1.026 g/cm³ (8.562 lbs/gal)**· Relative density** Not determined.**· Vapour density** Not determined.**· Evaporation rate** Not determined.**· Solubility in / Miscibility with****Water:** Not miscible or difficult to mix.**· Partition coefficient (n-octanol/water):** Not determined.**· Viscosity:****Dynamic:** Not determined.**Kinematic:** Not determined.**Organic solvents:** 100.0 %**VOC content:** 100.0 %**· Other information** No further relevant information available.**10 Stability and reactivity****· Reactivity****· Chemical stability****· Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.**· Possibility of hazardous reactions** No dangerous reactions known.**· Conditions to avoid** No further relevant information available.

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Trade name: N-Methyl Pyrrolidone (NMP)

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- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

872-50-4 N-methyl-2-pyrrolidone

Oral	LD50	3914 mg/kg (rat)
Dermal	LD50	8000 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**
Substance is not listed.

- **NTP (National Toxicology Program)**
Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

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Safety Data Sheet (SDS)

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Trade name: **N-Methyl Pyrrolidone (NMP)**

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14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** Void
- **UN proper shipping name** None
- **DOT, ADR, IMDG, IATA** Void
- **Transport hazard class(es)**
- **DOT, ADR, IMDG, IATA**
- **Class** Void
- **Packing group**
- **DOT, ADR, IMDG, IATA** Void
- **Environmental hazards:**
- **Marine pollutant:** No
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** -

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· **Section 355 (extremely hazardous substances):**
Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**
Substance is listed.

· **TSCA (Toxic Substances Control Act):**
Substance is listed.

California Prop 65:  **WARNING:** This product can expose you to chemical N Methyl Pyrrolidone, which is known to the State of California to cause Reproductive harm. For more information go to www.P65Warnings.ca.gov.

· **Chemicals known to cause reproductive toxicity for females:**
Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**
Substance is not listed.

· **Chemicals known to cause developmental toxicity:**
Substance is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**
Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
Substance is not listed.

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· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

· GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS07 GHS08

· Signal word Danger

· Hazard-determining components of labeling:

N-methyl-2-pyrrolidone

· Hazard statements

H227 Combustible liquid.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H360 May damage fertility or the unborn child.

H335 May cause respiratory irritation.

· Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent