

Witco

Humko Chemical Division

Witco Corporation, P.O. Box 125, Memphis, TN 38101 Telephone 901-320-5800

August 16, 1988



FYI-94-000988
INIT 07/17/94



84940000088

Handwritten: FYI-0794
000988

Contains No CBI

(A)

Ms. Roberta Wedge
Dynamac Corp.
The Dynamac Bldg.
11140 Rockville Pike
Rockville, MD 20852

Dear Ms. Wedge:

I have attached copies of our data sheets and MSDS's on the products made at Humko containing N,N,dimethyloctadecylamine. We have no unpublished toxicity or ecotoxicity data. The fraction released to the environment is quite small, and we have no data available on that. Unfortunately, I am not currently at liberty to release data on processes, production and workers involved.

I hope this is of value in your work. Please let me if I can help further.

Sincerely,

Handwritten signature: Thomas E. Breuer

Thomas E. Breuer
Director, Product Technology

TEB/dwc

Stamp: 02/94

Stamp: RECEIVED
OPPT CBI/C
94 JUL 14 AM 9:17

Humko Chemical technical information.

Humko Chemical Division, Witco Chemical Corporation
P.O. Box 125, Memphis, TN 38101 (901) 320-5800

KEMAMINE® T-9902D Fatty Amine

Description

KEMAMINE T-9902D fatty amine is a distilled dimethylmonoalkyl tertiary amine whose alkyl group is derived from stearic acid. This product has excellent color and color stability, as well as a 95% tertiary amine content.

Properties

The properties of KEMAMINE tertiary amines depend in part on the number, length, and degree of unsaturation of the fatty chains. This particular product has high thermal stability. It is insoluble in water and dispersible in that medium only when converted to inorganic or acetate salts. This product is soluble, however, in organic solvents such as alcohols, esters, and hydrocarbons and their chlorinated derivatives.

Applications

KEMAMINE tertiary amines can be used as chemical intermediates in the production of quaternary ammonium chlorides and amine oxides, as catalysts in polyurethane foam systems, and as corrosion inhibitors in systems requiring good heat stability.

Specifications

% Tertiary amine	95
Total amine value	180
Color, Gardner (1963)	1 max
% Moisture	0.5 max

Typical Carbon Chain Composition

Palmitic	10%
Stearic	90%

Safety and Handling

Although KEMAMINE fatty amines vary widely in degree of corrosiveness, all can be irritating to the eyes, nose, and mucous membranes. Heat can increase the products' irritation potential.

When handling KEMAMINE fatty amine products, wear rubber gloves, rubber aprons, rubber boots, and face shields. Be sure to work with these products only in adequately ventilated areas.

If direct contact does occur, remove contaminated clothing immediately. Wipe off the chemical with a disposable cloth or tissue, taking care not to rub it into the skin. Wash the affected area with large amounts of soap and water. See a physician if signs of irritation occur. In case of accidental eye contact, flush eyes with large amounts of water for at least 15 minutes. Call a physician immediately.

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Amines and diamines may be stored in black iron or carbon steel drums or tanks. The quaternary ammonium chlorides should be stored in lined drums or Monel tanks. Contact with brass, bronze, or copper can discolor the fatty nitrogen compounds. Store drums in sheltered areas away from heat and cold. Use approved transporting equipment to avoid puncturing or rupturing drums. Do not use air pressure to empty drums and do not reuse empty drums.

Clean up small spills with floor cleaning compounds or other suitable absorbents. Larger spills should be flushed into collection basins for disposal. Dispose of residue in accordance with federal, state, and local regulations.

KEMAMINE fatty amine products are not classified as flammable; however, they will burn if ignited. Fire can be contained with water fog, carbon dioxide (CO₂), or dry chemical.

AMN:524

January 1981

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Note: Data presented are typical. Slight variation may occur from lot to lot.

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Witco

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

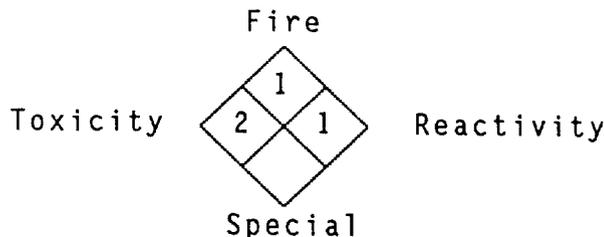
KEMAMINE(R) T9902

PAGE 1

Product Code: HUM AMIN T9902

CAS NO:124-28-7

HAZARD RATING
 N 4 - Extreme
 F 3 - High
 P 2 - Moderate
 A 1 - Slight
 0 - Insignificant



DIVISION AND LOCATION---SECTION I

Division: HUMKO

Location: MEMPHIS, TN

P.O. BOX 125,1231 POPE STREET, MEMPHIS, TN, 38101108

Emergency Telephone Number: (901) 320-5800

Transportation Emergency: CHEM TREC 1-(800) 424-9300 (U.S. and Canada)

CHEMICAL AND PHYSICAL PROPERTIES---SECTION II

Chemical Name:

dimethyl stearyl tertiary amine

Formula: mixture

Hazardous Decomposition Products:

carbon monoxide and carbon dioxide from burning.
 oxides of nitrogen

Incompatibility (Keep away from):

strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.
 will react rapidly with strong mineral acids

Toxic and Hazardous Ingredients:

dimethyl stearyl tertiary amine

CAS #
 124-28-7

Form: liquid

Odor: mild-ammoniacal

Appearance: oily, waxy

Color: light yellow

Specific Gravity (water=1): approximately .794

Boiling Point: @ 1 mm Hg about 185°C (365°F)

Melting Point: approximately 19 to 21°C (66 to 70°F)

Solubility in Water (by weight %): negligible

Volatile (by weight %): negligible

Evaporation Rate: negligible

Vapor Pressure (mm Hg at 20°C): negligible

Vapor Density (air=1): not applicable

pH (as is): no data available

Acidity or Alkalinity: Strong Base

Stability: Product is stable under normal conditions

Viscosity SUS at 100°F: not applicable

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

KEMAMINE(R) T9902

PAGE 2

Product Code: HUM AMIN T9902

CAS NO:124-28-7

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FIRE AND EXPLOSION DATA---SECTION III

=====

Special Fire Fighting Procedures:

Do not use heavy stream of water. Fatty material will float.

Unusual Fire and Explosion Hazards:

none. see Section VII

Flashpoint: (Method Used) Pensky-Martens closed-cup approximately 158°C (317°F)

Flammable limits %: no data available

Extinguishing agents:

Drychemical or Waterspray or Waterfog or CO₂ or Foam or Sand/Earth
Exposed material may be cooled with water.

=====

HEALTH HAZARD DATA---SECTION IV

=====

Permissible concentrations (air):

no data available

Chronic effects of overexposure:

can cause irritation to eyes, nose and throat on prolonged exposure and/or direct contact

Acute toxicological properties:

corrosive to skin (DOT)

Emergency First Aid Procedures:

Eyes: Immediately flush with large quantities of water for at least 15 minutes and call a physician.

Skin Contact: Wash with soap and water. Call a physician if a rash develops. If burned by contact with hot material, cool burned skin area as quickly as possible by immersing in cold water, or applying cold water. Call a physician.

Inhalation: Remove to fresh air.

If Swallowed: Contact a physician immediately.

=====

SPECIAL PROTECTION INFORMATION---SECTION V

=====

Ventilation Type Required (Local, mechanical, special):

Local if necessary to control fumes from hot material and to maintain allowable permissible exposure limit (PEL).

Respiratory Protection (Specify type):

Use NIOSH/OSHA approved dust mask and/or respirator where appropriate.

Protective Gloves: neoprene type.

Eye Protection: Chemical safety goggles.

Other Protective Equipment:

Neoprene protective type apron.

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

KEMAMINE(R) T9902

PAGE 3

Product Code: HUM AMIN T9902

CAS NO:124-28-7

=====
HANDLING OF SPILLS OR LEAKS---SECTION VI
=====

Procedures for Clean-Up:

Absorb liquids with an inert material such as sand, soil or vermiculite. Scoop up solids. Sweep up and dispose of in accordance with federal, state and local regulations.

Waste Disposal:

Dispose of in accordance with all applicable federal, state and local regulations.

=====
SPECIAL PRECAUTIONS---SECTION VII
=====

Precautions to be taken in handling and storage:

Where dusty and/or misting conditions exist an explosive atmosphere could develop as with any organic material.

Avoid breathing mist or fumes/vapors from hot material.

Keep containers sealed until ready for use. Avoid excessive storage temperatures.

Maximum Storage Temperature: 52°C (125°F)

=====
TRANSPORTATION DATA---SECTION VIII
=====

D.O.T.: Regulated

U.S. D.O.T. Proper Shipping Name: Alkaline (corrosive) liquid, n.o.s.

U.S. D.O.T. Hazard Class: Corrosive material

I.D. Number: NA 1719

Label(s) Required: Corrosive

Reportable Quantity: not applicable

Freight Classification: Fatty Amines

Special Transportation Notes:

=====
COMMENTS---SECTION IX
=====

For Industrial Use Only.

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

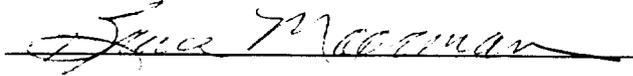
KEMAMINE(R) T9902

PAGE 4

Product Code: HUM AMIN T9902

CAS NO:124-28-7

Signature: BRUCE MOORMAN



Title:
REGULATORY COMPLIANCE

Original Date: 01/01/84

Sent to:

Date: _____

Revision Date: 11/20/85

Supersedes: 01/01/84

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

Humko Chemical technical information.

Humko Chemical Division, Witco Chemical Corporation
P.O. Box 125, Memphis, TN 38101 (901) 320-5800

KEMAMINE® T-6502D Fatty Amine

Description

KEMAMINE T-6502D fatty amine is a distilled dimethylmonoalkyl tertiary amine whose alkyl group is derived from coconut fatty acids. This product has excellent color and color stability, as well as a 95% tertiary amine content.

Properties

The properties of KEMAMINE tertiary amines depend in part on the number, length, and degree of unsaturation of the fatty chains. This particular product has high thermal stability. It is insoluble in water and dispersible in that medium only when converted to inorganic or acetate salts. This product is soluble, however, in organic solvents such as alcohols, esters, and hydrocarbons and their chlorinated derivatives.

Applications

KEMAMINE tertiary amines can be used as chemical intermediates in the production of quaternary ammonium chlorides and amine oxides, as catalysts in polyurethane foam systems, and as corrosion inhibitors in systems requiring good heat stability.

Specifications

% Tertiary amine	95
Total amine value	230
Color, Gardner (1963)	1 max
% Moisture	0.5 max

Typical Carbon Chain Composition

Capric	2%
Lauric	58%
Myristic	20%
Palmitic	10%
Stearic	5%
Oleic	5%

Safety and Handling

Although KEMAMINE fatty amines vary widely in degree of corrosiveness, all can be irritating to the eyes, nose, and mucous membranes. Heat can increase the products' irritation potential.

When handling KEMAMINE fatty amine products, wear rubber gloves, rubber aprons, rubber boots, and face shields. Be sure to work with these products only in adequately ventilated areas.

If direct contact does occur, remove contaminated clothing immediately. Wipe off the chemical with a disposable cloth or tissue, taking care not to rub it into the skin. Wash the affected area with large amounts of soap and water. See a physician if signs of irritation occur. In case of accidental eye contact, flush eyes with large amounts of water for at least 15 minutes. Call a physician immediately.

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Amines and diamines may be stored in black iron or carbon steel drums or tanks. The quaternary ammonium chlorides should be stored in lined drums or Monel tanks. Contact with brass, bronze, or copper can discolor the fatty nitrogen compounds. Store drums in sheltered areas away from heat and cold. Use approved transporting equipment to avoid puncturing or rupturing drums. Do not use air pressure to empty drums and do not reuse empty drums.

Clean up small spills with floor cleaning compounds or other suitable absorbents. Larger spills should be flushed into collection basins for disposal. Dispose of residue in accordance with federal, state, and local regulations.

KEMAMINE fatty amine products are not classified as flammable; however, they will burn if ignited. Fire can be contained with water fog, carbon dioxide (CO₂), or dry chemical.

AMN:520

January 1981

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Note: Data presented are typical. Slight variation may occur from lot to lot.

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Witco

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

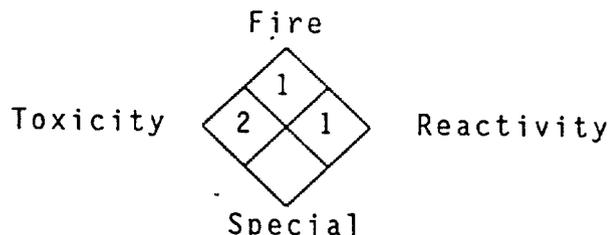
KEMAMINE(R) T6502D

PAGE 1

Product Code: 191 4120

CAS NO:61788-93-0

HAZARD RATING
 N 4 - Extreme
 F 3 - High
 P 2 - Moderate
 A 1 - Slight
 0 - Insignificant



DIVISION AND LOCATION---SECTION I

Division: HUMKO

Location: MEMPHIS, TN

P.O. BOX 125,1231 POPE STREET, MEMPHIS, TN, 38101108

Emergency Telephone Number: (901) 320-5800

Transportation Emergency: CHEM TREC 1-(800) 424-9300 (U.S. and Canada)

CHEMICAL AND PHYSICAL PROPERTIES---SECTION II

Chemical Name:

fatty dimethyl tertiary amine

Formula: mixture

Hazardous Decomposition Products:

carbon monoxide and carbon dioxide from burning.
 oxides of nitrogen

Incompatibility (Keep away from):

strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.
 will react rapidly with strong mineral acids

Toxic and Hazardous Ingredients:

fatty dimethyl tertiary amine

CAS #
 61788-93-0

Form: liquid

Odor: mild-ammoniacal

Appearance: oily, waxy

Color: light yellow

Specific Gravity (water=1): approximately .793

Boiling Point: @ 1 mm Hg about 121°C (250°F)

Melting Point: approximately 82 to 95°C (28 to 35°F)

Solubility in Water (by weight %): negligible

Volatile (by weight %): negligible

Evaporation Rate: negligible

Vapor Pressure (mm Hg at 20°C): negligible

Vapor Density (air=1): not applicable

pH (as is): no data available

Acidity or Alkalinity: Strong Base

Stability: Product is stable under normal conditions

Viscosity SUS at 100°F: not applicable

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

KEMAMINE(R) T6502D

PAGE 2

Product Code: 191 4120

CAS NO:61788-93-0

=====

FIRE AND EXPLOSION DATA---SECTION III

=====

Special Fire Fighting Procedures:

Do not use heavy stream of water. Fatty material will float.

Unusual Fire and Explosion Hazards:

none. see Section VII

Flashpoint: (Method Used) Pensky-Martens closed-cup approximately 107°C (225°F)

Flammable limits %: no data available

Extinguishing agents:

Drychemical or Waterspray or Waterfog or CO₂ or Foam or Sand/Earth
Exposed material may be cooled with water.

=====

HEALTH HAZARD DATA---SECTION IV

=====

Permissible concentrations (air):

no data available

Chronic effects of overexposure:

can cause irritation to eyes, nose and throat on prolonged exposure and/or direct contact

Acute toxicological properties:

corrosive to skin (DOT)

Emergency First Aid Procedures:

Eyes: Immediately flush with large quantities of water for at least 15 minutes and call a physician.

Skin Contact: Wash with soap and water. Call a physician if a rash develops. If burned by contact with hot material, cool burned skin area as quickly as possible by immersing in cold water, or applying cold water. Call a physician.

Inhalation: Remove to fresh air.

If Swallowed: Contact a physician immediately.

=====

SPECIAL PROTECTION INFORMATION---SECTION V

=====

Ventilation Type Required (Local, mechanical, special):

Local if necessary to control fumes from hot material and to maintain allowable permissible exposure limit (PEL).

Respiratory Protection (Specify type):

Use NIOSH/OSHA approved dust mask and/or respirator where appropriate.

Protective Gloves: neoprene type.

Eye Protection: Chemical safety goggles.

Other Protective Equipment:

Neoprene protective type apron.

(Continued on next page)

KEMAMINE(R) T6502D

PAGE 3

Product Code: 191 4120CAS NO: 61788-93-0=====
HANDLING OF SPILLS OR LEAKS---SECTION VI
=====Procedures for Clean-Up:

Absorb liquids with an inert material such as sand, soil or vermiculite. Scoop up solids. Sweep up and dispose of in accordance with federal, state and local regulations.

Waste Disposal:

Dispose of in accordance with all applicable federal, state and local regulations.

=====
SPECIAL PRECAUTIONS---SECTION VII
=====Precautions to be taken in handling and storage:

Where dusty and/or misting conditions exist an explosive atmosphere could develop as with any organic material.

Avoid breathing mist or fumes/vapors from hot material.

Keep containers sealed until ready for use. Avoid excessive storage temperatures.

Maximum Storage Temperature: 52°C (125°F)

=====
TRANSPORTATION DATA---SECTION VIII
=====

D.O.T.: Regulated

U.S. D.O.T. Proper Shipping Name: Alkaline (corrosive) liquid, n.o.s.

U.S. D.O.T. Hazard Class: Corrosive material

I.D. Number: NA 1719

Label(s) Required: Corrosive

Reportable Quantity: not applicable

Freight Classification: Fatty Amines

Special Transportation Notes:

=====
COMMENTS---SECTION IX
=====

For Industrial Use Only.

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

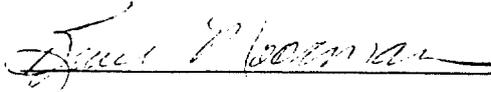
KEMAMINE(R) T6502D

PAGE 4

Product Code: 191 4120

CAS NO:61788-93-0

Signature: BRUCE MOORMAN



Title:

REGULATORY COMPLIANCE

Original Date: 01/01/84

Sent to:

Date:

Revision Date: 11/20/85

Supersedes: 01/01/84

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

Humko Chemical technical information.

Humko Chemical Division, Witco Chemical Corporation
P.O. Box 125, Memphis, TN 38101 (901) 320-5800

KEMAMINE® T-7502D Fatty Amine

Description

KEMAMINE T-7502D fatty amine is a distilled dimethylmonoalkyl tertiary amine whose alkyl group is derived from myristic and lauric acids. This product has excellent color and color stability, as well as a 95% tertiary amine content.

Properties

The properties of KEMAMINE tertiary amines depend in part on the number, length, and degree of unsaturation of the fatty chains. This particular product has high thermal stability. It is insoluble in water and dispersible in that medium only when converted to inorganic or acetate salts. This product is soluble, however, in organic solvents such as alcohols, esters, and hydrocarbons and their chlorinated derivatives.

Applications

KEMAMINE tertiary amines can be used as chemical intermediates in the production of quaternary ammonium chlorides and amine oxides, as catalysts in polyurethane foam systems, and as corrosion inhibitors in systems requiring good heat stability.

Typical Characteristics

% Tertiary amine	95
Total amine value	230
Color, Gardner (1963)	1 max
% H ₂ O	0.5 max

Typical Carbon Chain Composition

Lauric	35%
Myristic	55%
Palmitic	10%

Safety and Handling

Although KEMAMINE fatty amines vary widely in degree of corrosiveness, all can be irritating to the eyes, nose, and mucous membranes. Heat can increase the products' irritation potential.

When handling KEMAMINE fatty amine products, wear rubber gloves, rubber aprons, rubber boots, and face shields. Be sure to work with these products only in adequately ventilated areas.

If direct contact does occur, remove contaminated clothing immediately. Wipe off the chemical with a disposable cloth or tissue, taking care not to rub it into the skin. Wash the affected area with large amounts of soap and water. See a physician if signs of irritation occur. In case of accidental eye contact, flush eyes with large amounts of water for at least 15 minutes. Call a physician immediately.

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Amines and diamines may be stored in black iron or carbon steel drums or tanks. The quaternary ammonium chlorides should be stored in lined drums or Monel tanks. Contact with brass, bronze, or copper can discolor the fatty nitrogen compounds. Store drums in sheltered areas away from heat and cold. Use approved transporting equipment to avoid puncturing or rupturing drums. Do not use air pressure to empty drums and do not reuse empty drums.

Clean up small spills with floor cleaning compounds or other suitable absorbents. Larger spills should be flushed into collection basins for disposal. Dispose of residue in accordance with federal, state, and local regulations.

KEMAMINE fatty amine products are not classified as flammable; however, they will burn if ignited. Fire can be contained with water fog, carbon dioxide (CO₂), or dry chemical.

AMN:538

March 1981

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Note: Data presented are typical. Slight variation may occur from lot to lot.

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Humko Chemical technical information.

Humko Chemical Division, Witco Chemical Corporation
P.O. Box 125, Memphis, TN 38101 (901) 320-5800

KEMAMINE® T-8902D Fatty Amine

Description

KEMAMINE T-8902D fatty amine is a distilled dimethylmonoalkyl tertiary amine whose alkyl group is derived from palmitic acid. This product has excellent color and color stability, as well as a 95% tertiary amine content.

Properties

The properties of KEMAMINE tertiary amines depend in part on the number, length, and degree of unsaturation of the fatty chains. This particular product has high thermal stability. It is insoluble in water and dispersible in that medium only when converted to inorganic or acetate salts. This product is soluble, however, in organic solvents such as alcohols, esters, and hydrocarbons and their chlorinated derivatives.

Applications

KEMAMINE tertiary amines can be used as chemical intermediates in the production of quaternary ammonium chlorides and amine oxides, as catalysts in polyurethane foam systems, and as corrosion inhibitors in systems requiring good heat stability.

Typical Characteristics

% Tertiary amine	95
Total amine value	205
Color, Gardner (1963)	1 max
% H ₂ O	0.5 max

Typical Carbon Chain Composition

Lauric	1%
Myristic	8%
Palmitic	90%
Stearic	1%

Safety and Handling

Although KEMAMINE fatty amines vary widely in degree of corrosiveness, all can be irritating to the eyes, nose, and mucous membranes. Heat can increase the products' irritation potential.

When handling KEMAMINE fatty amine products, wear rubber gloves, rubber aprons, rubber boots, and face shields. Be sure to work with these products only in adequately ventilated areas.

If direct contact does occur, remove contaminated clothing immediately. Wipe off the chemical with a disposable cloth or tissue, taking care not to rub it into the skin. Wash the affected area with large amounts of soap and water. See a physician if signs of irritation occur. In case of accidental eye contact, flush eyes with large amounts of water for at least 15 minutes. Call a physician immediately.

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Humko Chemical technical information

Amines and diamines may be stored in black iron or carbon steel drums or tanks. The quaternary ammonium chlorides should be stored in lined drums or Monel tanks. Contact with brass, bronze, or copper can discolor the fatty nitrogen compounds. Store drums in sheltered areas away from heat and cold. Use approved transporting equipment to avoid puncturing or rupturing drums. Do not use air pressure to empty drums and do not reuse empty drums.

Clean up small spills with floor cleaning compounds or other suitable absorbents. Larger spills should be flushed into collection basins for disposal. Dispose of residue in accordance with federal, state, and local regulations.

KEMAMINE fatty amine products are not classified as flammable; however, they will burn if ignited. Fire can be contained with water fog, carbon dioxide (CO₂), or dry chemical.

AMN: 539

March 1981

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Witco

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

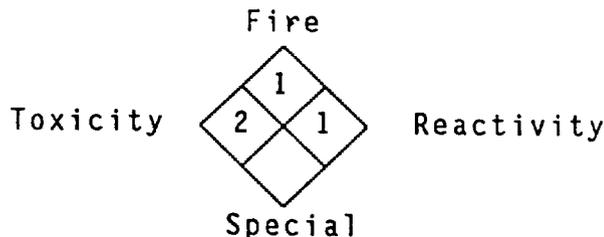
KEMAMINE(R) T9702D

PAGE 1

Product Code: 191 4140

CAS NO:124-28-7

HAZARD RATING
 N 4 - Extreme
 F 3 - High
 P 2 - Moderate
 A 1 - Slight
 0 - Insignificant



DIVISION AND LOCATION---SECTION I

Division: HUMKO

Location: MEMPHIS, TN

P.O. BOX 125, 1231 POPE STREET, MEMPHIS, TN, 38101108

Emergency Telephone Number: (901) 320-5800

Transportation Emergency: CHEM TREC 1-(800) 424-9300 (U.S. and Canada)

CHEMICAL AND PHYSICAL PROPERTIES---SECTION II

Chemical Name:

1-octadecanamine, N,N-dimethyl

Formula: mixture

Hazardous Decomposition Products:

carbon monoxide and carbon dioxide from burning.
 oxides of nitrogen

Incompatibility (Keep away from):

strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.
 will react rapidly with strong mineral acids

Toxic and Hazardous Ingredients:

1-octadecanamine, N,N-dimethyl

CAS #
 624-28-7

Form: liquid

Odor: mild-ammoniacal

Appearance: oily, waxy

Color: clear

Specific Gravity (water=1): approximately .795

Boiling Point: @ 1 mm Hg 160°C (320°F)

Melting Point: approximately 20 to 22°C (68 to 72°F)

Solubility in Water (by weight %): negligible

Volatile (by weight %): negligible

Evaporation Rate: negligible

Vapor Pressure (mm Hg at 20°C): negligible

Vapor Density (air=1): not applicable

pH (as is): no data available

Acidity or Alkalinity: Strong Base

Stability: Product is stable under normal conditions

Viscosity SUS at 100°F: no data available

FIRE AND EXPLOSION DATA---SECTION III

Special Fire Fighting Procedures:

Do not use heavy stream of water. Fatty material will float.

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

KEMAMINE(R) T9702D

PAGE 2

Product Code: 191 4140

(Section III continued)

Unusual Fire and Explosion Hazards:

none. see Section VII

Flashpoint: (Method Used) Pensky-Martens closed-cup approximately 154°C (310°F)

Flammable limits %: no data available

Extinguishing agents:

Drychemical or Waterspray or Waterfog or CO₂ or Foam or Sand/Earth
Exposed material may be cooled with water.

=====

HEALTH HAZARD DATA---SECTION IV

=====

Permissible concentrations (air):

no data available

Chronic effects of overexposure:

can cause irritation to eyes, nose and throat on prolonged exposure and/or direct contact

Acute toxicological properties:

corrosive to skin (DOT)

Emergency First Aid Procedures:

Eyes: Immediately flush with large quantities of water for at least 15 minutes and call a physician.

Skin Contact: Wash with soap and water. Call a physician if a rash develops. If burned by contact with hot material, cool burned skin area as quickly as possible by immersing in cold water, or applying cold water. Call a physician.

Inhalation: Remove victim to fresh air.

If Swallowed: Contact a physician immediately.

=====

SPECIAL PROTECTION INFORMATION---SECTION V

=====

Ventilation Type Required (Local, mechanical, special):

Local if necessary to control fumes from hot material and to maintain allowable permissible exposure limit (PEL).

Respiratory Protection (Specify type):

Use NIOSH/OSHA approved dust mask and/or respirator where appropriate.

Protective Gloves: neoprene type

Eye Protection: chemical safety goggles.

Other Protective Equipment:

neoprene protective type apron.

=====

HANDLING OF SPILLS OR LEAKS---SECTION VI

=====

Procedures for Clean-Up:

Absorb liquids with an inert material such as sand, soil or vermiculite. Scoop up solids. Sweep up and dispose of in accordance with federal, state and local regulations.

Waste Disposal:

Dispose of in accordance with all applicable federal, state and local

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

KEMAMINE(R) T9702D

PAGE 3

Product Code: 191 4140

(Section VI continued)

regulations.

SPECIAL PRECAUTIONS---SECTION VII

Precautions to be taken in handling and storage:

Where dusty and/or misting conditions exist an explosive atmosphere could develop as with any organic material.

Avoid breathing mist or fumes/vapors from hot material.

Keep containers sealed until ready for use. Avoid excessive storage temperatures.

Maximum Storage Temperature: 52°C (125°F)

TRANSPORTATION DATA---SECTION VIII

D.O.T.: Regulated

U.S. D.O.T. Proper Shipping Name: Alkaline (corrosive) liquid, n.o.s.

U.S. D.O.T. Hazard Class: Corrosive material

I.D. Number: NA 1719

Label(s) Required: Corrosive

Reportable Quantity: not applicable

Freight Classification: Fatty Amines

Special Transportation Notes:

COMMENTS---SECTION IX

For Industrial Use Only.

Signature: BRUCE MOORMAN 

Title:

REGULATORY COMPLIANCE

Original Date: 01/01/84

Sent to:

Date: _____

Revision Date: 11/20/85

Supersedes: 01/01/84

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Humko Chemical technical information.

Humko Chemical Division, Witco Chemical Corporation
P.O. Box 125, Memphis, TN 38101 (901) 320-5800

KEMAMINE® T-9742D Fatty Amine

Description

KEMAMINE T-9742D fatty amine is a distilled dimethylmonoalkyl tertiary amine whose alkyl group is derived from tallow fatty acids. This product has excellent color and color stability, as well as a 95% tertiary amine content.

Properties

The properties of KEMAMINE tertiary amines depend in part on the number, length, and degree of unsaturation of the fatty chains. This particular product has high thermal stability. It is insoluble in water and dispersible in that medium only when converted to inorganic or acetate salts. This product is soluble, however, in organic solvents such as alcohols, esters, and hydrocarbons and their chlorinated derivatives.

Applications

KEMAMINE tertiary amines can be used as chemical intermediates in the production of quaternary ammonium chlorides and amine oxides, as catalysts in polyurethane foam systems, and as corrosion inhibitors in systems requiring good heat stability.

Specifications

% Tertiary amine	95
Total amine value	180
Color, Gardner (1963)	1 max
% Moisture	0.5 max

Typical Carbon Chain Composition

Myristic	4%
Palmitic	29%
Stearic	25%
Oleic	38%
Linoleic	4%

Safety and Handling

Although KEMAMINE fatty amines vary widely in degree of corrosiveness, all can be irritating to the eyes, nose, and mucous membranes. Heat can increase the products' irritation potential.

When handling KEMAMINE fatty amine products, wear rubber gloves, rubber aprons, rubber boots, and face shields. Be sure to work with these products only in adequately ventilated areas.

If direct contact does occur, remove contaminated clothing immediately. Wipe off the chemical with a disposable cloth or tissue, taking care not to rub it into the skin. Wash the affected area with large amounts of soap and water. See a physician if signs of irritation occur. In case of accidental eye contact, flush eyes with large amounts of water for at least 15 minutes. Call a physician immediately.

Humko Chemical technical information

Amines and diamines may be stored in black iron or carbon steel drums or tanks. The quaternary ammonium chlorides should be stored in lined drums or Monel tanks. Contact with brass, bronze, or copper can discolor the fatty nitrogen compounds. Store drums in sheltered areas away from heat and cold. Use approved transporting equipment to avoid puncturing or rupturing drums. Do not use air pressure to empty drums and do not reuse empty drums.

Clean up small spills with floor cleaning compounds or other suitable absorbents. Larger spills should be flushed into collection basins for disposal. Dispose of residue in accordance with federal, state, and local regulations.

KEMAMINE fatty amine products are not classified as flammable; however, they will burn if ignited. Fire can be contained with water fog, carbon dioxide (CO₂), or dry chemical.

AMN:523

October 1981

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Note: Data presented are typical. Slight variation may occur from lot to lot.

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Witco

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

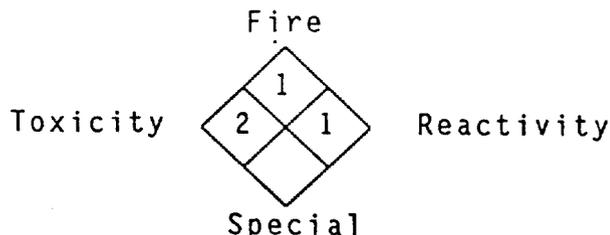
KEMAMINE(R) T-9742D

PAGE 1

Product Code: 191 4150

CAS NO:68391-07-1

	HAZARD RATING
N	4 - Extreme
F	3 - High
P	2 - Moderate
A	1 - Slight
	0 - Insignificant



DIVISION AND LOCATION---SECTION I

Division: HUMKO

Location: MEMPHIS, TN

P.O. BOX 125,1231 POPE STREET, MEMPHIS, TN, 38101108

Emergency Telephone Number: (901) 320-5800

Transportation Emergency: CHEM TREC 1-(800) 424-9300 (U.S. and Canada)

CHEMICAL AND PHYSICAL PROPERTIES---SECTION II

Chemical Name:

fatty dimethyl tertiary amines

Formula: mixture

Hazardous Decomposition Products:

carbon monoxide and carbon dioxide from burning.
oxides of nitrogen

Incompatibility (Keep away from):

strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.
will react rapidly with strong mineral acids

Toxic and Hazardous Ingredients:

fatty dimethyl tertiary amines

CAS #
68391-07-1

Form: liquid

Odor: mild-ammoniacal

Appearance: oily, waxy

Color: clear

Specific Gravity (water=1): approximately .758

Boiling Point: @1 mm Hg about 154°C (310°F)

Melting Point: approximately 8 to 11°C (46 to 52°F)

Solubility in Water (by weight %): negligible

Volatile (by weight %): negligible

Evaporation Rate: negligible

Vapor Pressure (mm Hg at 20°C): negligible

Vapor Density (air=1): not applicable

pH (as is): no data available

Acidity or Alkalinity: Strong Base

Stability: Product is stable under normal conditions

Viscosity SUS at 100°F: not applicable

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

KEMAMINE(R) T-9742D

PAGE 2

Product Code: 191 4150

CAS NO:68391-07-1

=====

FIRE AND EXPLOSION DATA---SECTION III

=====

Special Fire Fighting Procedures:

Do not use heavy stream of water. Fatty material will float.

Unusual Fire and Explosion Hazards:

none. see Section VII

Flashpoint: (Method Used) Pensky-Martens closed-cup approximately 167°C (333°F)

Flammable limits %: no data available

Extinguishing agents:

Drychemical or Waterspray or Waterfog or CO₂ or Foam or Sand/Earth
Exposed material may be cooled with water.

=====

HEALTH HAZARD DATA---SECTION IV

=====

Permissible concentrations (air):

no data available

Chronic effects of overexposure:

can cause irritation to eyes, nose and throat on prolonged exposure and/or direct contact

Acute toxicological properties:

corrosive to skin (DOT)

Emergency First Aid Procedures:

Eyes: Immediately flush with large quantities of water for at least 15 minutes and call a physician.

Skin Contact: Wash with soap and water. Call a physician if a rash develops. If burned by contact with hot material, cool burned skin area as quickly as possible by immersing in cold water, or applying cold water. Call a physician.

Inhalation: Remove to fresh air.

If Swallowed: Contact a physician immediately.

=====

SPECIAL PROTECTION INFORMATION---SECTION V

=====

Ventilation Type Required (Local,mechanical,special):

Local if necessary to control fumes from hot material and to maintain allowable permissible exposure limit (PEL).

Respiratory Protection (Specify type):

Use NIOSH/OSHA approved dust mask and/or respirator where appropriate.

Protective Gloves: neoprene type.

Eye Protection: Chemical safety goggles.

Other Protective Equipment:

Neoprene protective type apron.

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

KEMAMINE(R) T-9742D

PAGE 3

Product Code: 191 4150

CAS NO:68391-07-1

=====
HANDLING OF SPILLS OR LEAKS---SECTION VI
=====

Procedures for Clean-Up:

Absorb liquids with an inert material such as sand, soil or vermiculite. Scoop up solids. Sweep up and dispose of in accordance with federal, state and local regulations.

Waste Disposal:

Dispose of in accordance with all applicable federal, state and local regulations.

=====
SPECIAL PRECAUTIONS---SECTION VII
=====

Precautions to be taken in handling and storage:

Where dusty and/or misting conditions exist an explosive atmosphere could develop as with any organic material.

Avoid breathing mist or fumes/vapors from hot material.

Keep containers sealed until ready for use. Avoid excessive storage temperatures.

Maximum Storage Temperature: 52°C (125°F)

=====
TRANSPORTATION DATA---SECTION VIII
=====

D.O.T.: Regulated

U.S. D.O.T. Proper Shipping Name: Alkaline (corrosive) liquid, n.o.s.

U.S. D.O.T. Hazard Class: Corrosive material

I.D. Number: NA 1719

Label(s) Required: Corrosive

Reportable Quantity: not applicable

Freight Classification: Fatty Amines

Special Transportation Notes:

=====
COMMENTS---SECTION IX
=====

For Industrial Use Only.

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

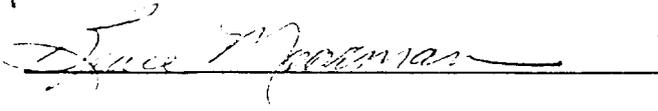
KEMAMINE(R) T-9742D

PAGE 4

Product Code: 191 4150

CAS NO:68391-07-1

Signature: BRUCE MOORMAN



Title:

REGULATORY COMPLIANCE

Original Date: 01/01/84

Sent to:

Date: _____

Revision Date: 11/20/85

Supersedes: 01/01/84

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Humko Chemical technical information.

Humko Chemical Division, Witco Chemical Corporation
P.O. Box 125, Memphis, TN 38101 (901) 320-5800

KEMAMINE[®] T-9972D Fatty Amine

Description

KEMAMINE T-9972D fatty amine is a distilled dimethylmonoalkyl tertiary amine whose alkyl group is derived from soya fatty acids. This product has excellent color and color stability, as well as a 95% tertiary amine content.

Properties

The properties of KEMAMINE tertiary amines depend in part on the number, length, and degree of unsaturation of the fatty chains. This particular product has high thermal stability. It is insoluble in water and dispersible in that medium only when converted to inorganic acetate salts. This product is soluble, however, in organic solvents such as alcohols, esters, and hydrocarbons and their chlorinated derivatives.

Applications

KEMAMINE tertiary amines can be used as chemical intermediates in the production of quaternary ammonium chlorides and amine oxides, as catalysts in polyurethane foam systems, and as corrosion inhibitors in systems requiring good heat stability.

Specifications

% Tertiary amine	95
Total amine value	180
Color, Gardner (1963)	1 max
% Moisture	0.5 max

Typical Carbon Chain Composition

Palmitic	15%
Stearic	10%
Oleic	45%
Linoleic	30%

Safety and Handling

Although KEMAMINE fatty amines vary widely in degree of corrosiveness, all can be irritating to the eyes, nose, and mucous membranes. Heat can increase the products' irritation potential.

When handling KEMAMINE fatty amine products, wear rubber gloves, rubber aprons, rubber boots, and face shields. Be sure to work with these products only in adequately ventilated areas.

If direct contact does occur, remove contaminated clothing immediately. Wipe off the chemical with a disposable cloth or tissue, taking care not to rub it into the skin. Wash the affected area with large amounts of soap and water. See a physician if signs of irritation occur. In case of accidental eye contact, flush eyes with large amounts of water for at least 15 minutes. Call a physician immediately.

Witco

Amines and diamines may be stored in black iron or carbon steel drums or tanks. The quaternary ammonium chlorides should be stored in lined drums or Monel tanks. Contact with brass, bronze, or copper can discolor the fatty nitrogen compounds. Store drums in sheltered areas away from heat and cold. Use approved transporting equipment to avoid puncturing or rupturing drums. Do not use air pressure to empty drums and do not reuse empty drums.

Clean up small spills with floor cleaning compounds or other suitable absorbents. Larger spills should be flushed into collection basins for disposal. Dispose of residue in accordance with federal, state, and local regulations.

KEMAMINE fatty amine products are not classified as flammable; however, they will burn if ignited. Fire can be contained with water fog, carbon dioxide (CO₂), or dry chemical.

AMN:525

January 1981

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Note: Data presented are typical. Slight variation may occur from lot to lot.

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W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

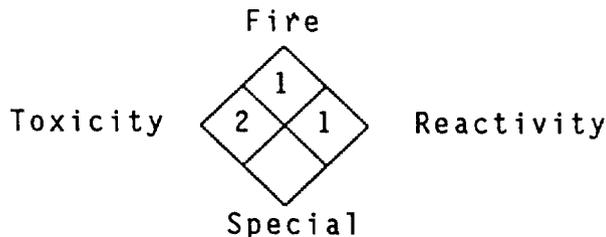
KEMAMINE(R) T9972D

PAGE 1

Product Code: 191 4180

CAS NO:61788-91-8

HAZARD RATING
 N 4 - Extreme
 F 3 - High
 P 2 - Moderate
 A 1 - Slight
 0 - Insignificant



DIVISION AND LOCATION---SECTION I

Division: HUMKO

Location: MEMPHIS, TN

P.O. BOX 125,1231 POPE STREET, MEMPHIS, TN, 38101108

Emergency Telephone Number: (901) 320-5800

Transportation Emergency: CHEM TREC 1-(800) 424-9300 (U.S. and Canada)

CHEMICAL AND PHYSICAL PROPERTIES---SECTION II

Chemical Name:

fatty dimethyl tertiary amine

Formula: mixture

Hazardous Decomposition Products:

carbon monoxide and carbon dioxide from burning.
 oxides of nitrogen

Incompatibility (Keep away from):

strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.
 will react rapidly with strong mineral acids

Toxic and Hazardous Ingredients:

fatty dimethyl tertiary amine

CAS #
 61788-91-8

Form: liquid

Odor: mild-ammoniacal

Appearance: oily, waxy

Color: light yellow

Specific Gravity (water=1): approximately .785

Boiling Point: @1mm Hg about 177°C (350°F)

Melting Point: no data available

Solubility in Water (by weight %): negligible

Volatile (by weight %): negligible

Evaporation Rate: negligible

Vapor Pressure (mm Hg at 20°C): negligible

Vapor Density (air=1): not applicable

pH (as is): no data available

Acidity or Alkalinity: Strong Base

Stability: Product is stable under normal conditions

Viscosity SUS at 100°F: not applicable

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

KEMAMINE(R) T9972D

PAGE 2

Product Code: 191 4180

CAS NO:61788-91-8

FIRE AND EXPLOSION DATA---SECTION III

Special Fire Fighting Procedures:

Do not use heavy stream of water. Fatty material will float.

Unusual Fire and Explosion Hazards:

none. see Section VII

Flashpoint: (Method Used) Pensky-Martens closed-cup approximately 163°C (325°F)

Flammable limits %: no data available

Extinguishing agents:

Drychemical or Waterspray or Waterfog or CO₂ or Foam or Sand/Earth
Exposed material may be cooled with water.

HEALTH HAZARD DATA---SECTION IV

Permissible concentrations (air):

no data available

Chronic effects of overexposure:

can cause irritation to eyes, nose and throat on prolonged exposure and/or direct contact

Acute toxicological properties:

corrosive to skin (DOT)

Emergency First Aid Procedures:

Eyes: Immediately flush with large quantities of water for at least 15 minutes and call a physician.

Skin Contact: Wash with soap and water. Call a physician if a rash develops. If burned by contact with hot material, cool burned skin area as quickly as possible by immersing in cold water, or applying cold water. Call a physician.

Inhalation: Remove to fresh air.

If Swallowed: Contact a physician immediately.

SPECIAL PROTECTION INFORMATION---SECTION V

Ventilation Type Required (Local, mechanical, special):

Local if necessary to control fumes from hot material and to maintain allowable permissible exposure limit (PEL).

Respiratory Protection (Specify type):

Use NIOSH/OSHA approved dust mask and/or respirator where appropriate.

Protective Gloves: neoprene type.

Eye Protection: Chemical safety goggles.

Other Protective Equipment:

Neoprene protective type apron.

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

KEMAMINE(R) T9972D

PAGE 3

Product Code: 191 4180

CAS NO:61788-91-8

=====
HANDLING OF SPILLS OR LEAKS---SECTION VI
=====

Procedures for Clean-Up:

Absorb liquids with an inert material such as sand, soil or vermiculite. Scoop up solids. Sweep up and dispose of in accordance with federal, state and local regulations.

Waste Disposal:

Dispose of in accordance with all applicable federal, state and local regulations.

=====
SPECIAL PRECAUTIONS---SECTION VII
=====

Precautions to be taken in handling and storage:

Where dusty and/or misting conditions exist an explosive atmosphere could develop as with any organic material.

Avoid breathing mist or fumes/vapors from hot material.

Keep containers sealed until ready for use. Avoid excessive storage temperatures.

Maximum Storage Temperature: 52°C (125°F)

=====
TRANSPORTATION DATA---SECTION VIII
=====

D.O.T.: Regulated

U.S. D.O.T. Proper Shipping Name: Alkaline (corrosive) liquid, n.o.s.

U.S. D.O.T. Hazard Class: Corrosive material

I.D. Number: NA 1719

Label(s) Required: Corrosive

Reportable Quantity: not applicable

Freight Classification: Fatty Amines

Special Transportation Notes:

=====
COMMENTS---SECTION IX
=====

For Industrial Use Only.

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

KEMAMINE(R) T9972D

PAGE 4

Product Code: 191 4180

CAS NO:61788-91-8

Signature: BRUCE MOORMAN



Title:

REGULATORY COMPLIANCE

Original Date: 01/01/84

Sent to:

Date: _____

Revision Date: 11/20/85

Supersedes: 01/01/84

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Humko Chemical technical information.

Humko Chemical Division, Witco Corporation
P.O. Box 125, Memphis, TN 38101-0125 (901) 320-5800

KEMANINE® T-9992D Fatty Amine

Description	Kemamine T-9992D fatty amine is a distilled dimethylmonoalkyl tertiary amine whose alkyl group is derived from vegetable fatty acids. This product has excellent color and color stability, as well as 95% tertiary amine content.	
Properties	The properties of Kemamine tertiary amines depend in part on the number, length, and degree of unsaturation of the fatty chains. Kemamine T-9992D is insoluble in water and dispersible in that medium only when converted to inorganic acetate salts. This product is soluble, however, in organic solvents such as alcohols, esters, and hydrocarbons and their chlorinated derivatives.	
Applications	Kemamine tertiary amines can be used as chemical intermediates in the production of quaternary ammonium chlorides, sulfates, and amine oxides, as catalysts in polyurethane foam systems, and as corrosion inhibitors in systems requiring good heat stability.	
Specifications	% tertiary amine	95 min
	Total amine value	180 min
	Color, Gardner (1963)	2 max
	% moisture	0.5 max
Typical Carbon Chain Composition	Palmitic	15%
	Stearic	7%
	Oleic	53%
	Linoleic	22%
	Linolenic	3%

Witco

Humko Chemical technical information

Safety and Handling

Although Kemamine fatty amines vary widely in degree of corrosiveness, all can be irritating to the eyes, nose, and mucous membranes, therefore, be sure to work with these products in adequately ventilated areas. Heat can increase the irritation potential of these products.

If direct contact does occur, remove contaminated clothing immediately and wipe off the chemical with a disposable cloth or tissue, taking care not to rub it into the skin. Wash the affected area with large amounts of soap and water. See a physician if signs of irritation occur.

In case of accidental eye contact, flush with large amounts of water for at least 15 minutes and contact a physician immediately.

Clean up small spills with floor cleaning compounds or other suitable absorbents. Larger spills should be flushed into collection basins for disposal. Dispose of residue in accordance with federal, state and local regulations.

Kemamine fatty amine products are not classified as flammable, however, they will burn if ignited. In case of fire, extinguish with foam, dry powder, or water fog. Do not use a stream of water, as fatty material floats and could cause the fire to spread.

Refer to the material safety data sheet for further safety and handling information.

AMN:536

June 1986

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Note: Data presented are typical. Slight variation may occur from lot to lot.

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Witco

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

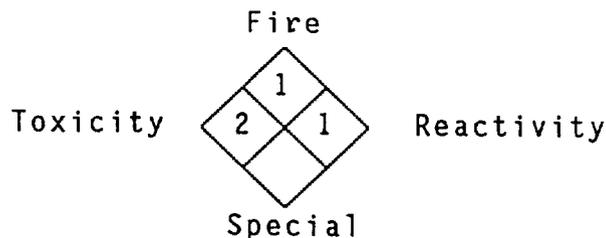
KEMAMINE(R) T-9992-D

PAGE 1

Product Code: 191 4185

CAS NO:61788-91-8

HAZARD RATING
 N 4 - Extreme
 F 3 - High
 P 2 - Moderate
 A 1 - Slight
 0 - Insignificant



DIVISION AND LOCATION---SECTION I

Division: HUMKO

Location: MEMPHIS, TN

P.O. BOX 125,1231 POPE STREET, MEMPHIS, TN, 38101108

Emergency Telephone Number: (901) 320-5800

Transportation Emergency: CHEM TREC 1-(800) 424-9300 (U.S. and Canada)

CHEMICAL AND PHYSICAL PROPERTIES---SECTION II

Chemical Name:

fatty dimethyl tertiary amine

Formula: mixture

Hazardous Decomposition Products:

carbon monoxide and carbon dioxide from burning.
 oxides of nitrogen

Incompatibility (Keep away from):

strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.
 will react rapidly with strong mineral acids

Toxic and Hazardous Ingredients:

dimethyl tertiary amine

%
 over 75

CAS #
 61788-91-8

Form: liquid

Odor: mild-ammoniacal

Appearance: oily, waxy

Color: light yellow

Specific Gravity (water=1): about .875

Boiling Point: greater than 200°C (392°F)

Melting Point: not applicable

Solubility in Water (by weight %): negligible

Volatile (by weight %): negligible

Evaporation Rate: negligible

Vapor Pressure (mm Hg at 20°C): negligible

Vapor Density (air=1): not applicable

pH (as is): no data available

Acidity or Alkalinity: Strong Base

Stability: Product is stable under normal conditions

Viscosity SUS at 100°F: Less than 100

FIRE AND EXPLOSION DATA---SECTION III

Special Fire Fighting Procedures:

Do not use heavy stream of water. Fatty material will float.

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

KEMAMINE(R) T-9992-D

PAGE 2

Product Code: 191 4185

(Section III continued)

Unusual Fire and Explosion Hazards:

none. see Section VII

Flashpoint: (Method Used) Pinsky-Martens closed-cup about 160°C (320°F)

Flammable limits %: no data available

Extinguishing agents:

Drychemical or Waterspray or Waterfog or CO₂ or Foam or Sand/Earth
Exposed material may be cooled with water.

HEALTH HAZARD DATA---SECTION IV

Permissible concentrations (air):

not applicable

Chronic effects of overexposure:

can cause irritation to eyes, nose and throat on prolonged exposure and/or direct contact

Acute toxicological properties:

corrosive to skin (DOT)

Emergency First Aid Procedures:

Eyes: Immediately flush with large quantities of water for at least 15 minutes and call a physician.

Skin Contact: Wash with soap and water. Call a physician if a rash develops. If burned by contact with hot material, cool burned skin area as quickly as possible by immersing in cold water, or applying cold water. Call a physician.

Inhalation: Remove victim to fresh air.

If Swallowed: Contact a physician immediately.

SPECIAL PROTECTION INFORMATION---SECTION V

Ventilation Type Required (Local, mechanical, special):

Local if necessary to control fumes from hot material and to maintain allowable permissible exposure limit (PEL).

Respiratory Protection (Specify type):

Use NIOSH/OSHA approved dust mask and/or respirator where appropriate.

Protective Gloves: neoprene type

Eye Protection: chemical safety goggles.

Other Protective Equipment:

neoprene protective type apron.

HANDLING OF SPILLS OR LEAKS---SECTION VI

Procedures for Clean-Up:

Absorb liquids with an inert material such as sand, soil or vermiculite. Scoop up solids. Sweep up and dispose of in accordance with federal, state and local regulations.

Waste Disposal:

Dispose of in accordance with all applicable federal, state and local

(Continued on next page)

W I T C O M A T E R I A L S A F E T Y D A T A S H E E T

KEMAMINE(R) T-9992-D

PAGE 3

Product Code: 191 4185

(Section VI continued)

regulations.

SPECIAL PRECAUTIONS---SECTION VII

Precautions to be taken in handling and storage:

Where dusty and/or misting conditions exist an explosive atmosphere could develop as with any organic material.

Avoid breathing mist or fumes/vapors from hot material.

Keep containers sealed until ready for use. Avoid excessive storage temperatures.

Maximum Storage Temperature: 52°C (125°F)

TRANSPORTATION DATA---SECTION VIII

D.O.T.: Regulated

U.S. D.O.T. Proper Shipping Name: Alkaline (corrosive) liquid, n.o.s.

U.S. D.O.T. Hazard Class: Corrosive material

I.D. Number: NA 1719

Label(s) Required: Corrosive

Reportable Quantity: not applicable

Freight Classification: Fatty Amines

Special Transportation Notes:

COMMENTS---SECTION IX

For Industrial Use Only.

Signature: BRUCE MOORMAN



Title:

REGULATORY COMPLIANCE

Original Date: 06/26/86

Sent to:

Date: _____

Revision Date:

Supersedes:

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