

01876 R



MATERIAL SAFETY DATA

MSDS No: 07654
Date: 11/16/2001
Supersedes: 08/20/1998

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **DAPCO⁺ 2030 Cryogenic Sealant/Thermal Insulation Coating, Part A**

SYNONYMS: 2030-01A Buff, 2030-02A Black, 2030-05A White

CHEMICAL FAMILY: Fluororubber in solvent

MOLECULAR FORMULA: Mixture

MOLECULAR WGT: Mixture

D Aircraft Products, Inc.
1191 HAWK CIRCLE, ANAHEIM, CALIFORNIA 92807 714/632-8444

EMERGENCY PHONE: For product emergency involving spill, leak, fire, exposure or accident call CHEMTREC: 1-800/424-9300. Outside the USA and Canada call 1-703/527-3887.

*Trademark

2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA REGULATED COMPONENTS

COMPONENT	CAS. NO.	%	TWA/CEILING	REFERENCE
Magnesium oxide	001309-48-4	<5.0	15 mg/m3 total 10 mg/m3 total	OSHA ACGIH
2-Butanone (Methyl ethyl ketone)	000078-93-3	50.0-70.0	200 ppm 300 ppm STEL	OSHA/ACGIH ACGIH
Talc	014807-96-6	<10.0	2 mg/m3 respirable	OSHA/ACGIH
Magnesium carbonate	000546-93-0	<1.0	15 mg/m3 total 5 mg/m3 respirable	OSHA OSHA
Carbon black	001333-86-4	<1.0	10 mg/m3 3.5 mg/m3	ACGIH OSHA/ACGIH
Titanium Dioxide	013463-67-7	<5.0	15 mg/m3 total 10 mg/m3	IARC - 2B OSHA ACGIH

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE AND ODOR: Buff, black, or white volatile liquid; methyl ethyl ketone odor

STATEMENTS OF HAZARD:

DANGER! FLAMMABLE LIQUID AND VAPOR
CAUSES EYE BURNS AND SKIN IRRITATION

POTENTIAL HEALTH EFFECTS

EFFECTS OF OVEREXPOSURE:

Acute oral (rat) and dermal (rabbit) LD50 values are estimated to be greater than 2700 mg/kg and 2000 mg/kg, respectively. The acute 4-hour inhalation LC50 (rat) is estimated to be greater than 7.5 mg/L. Direct contact with this material may cause severe eye and moderate skin irritation. Overexposure to vapor may cause respiratory tract irritation and central nervous system depression. Refer to Section 11 for toxicology information on the regulated components of this product.

4. FIRST AID MEASURES

Material is not expected to be harmful by ingestion. No specific first aid measures are required.
In case of skin contact, remove contaminated clothing without delay. Flush skin thoroughly with water. Do not reuse clothing without laundering. Get medical attention if pain or irritation persists after washing or if signs and symptoms of overexposure appear.
In case of eye contact, immediately irrigate with plenty of water for 15 minutes. Obtain medical attention without delay.
If vapor or dust of this material is inhaled, remove from exposure. Administer oxygen if there is difficulty in breathing. Obtain medical attention immediately if necessary.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: 25 F; -4 C
METHOD: Tag Closed Cup

FLAMMABLE LIMITS

(% BY VOL): 1.8 Lower; 11.5 Upper

AUTOIGNITION TEMP: Not available

DECOMPOSITION TEMP: Not applicable

EXTINGUISHING MEDIA AND FIRE FIGHTING INSTRUCTIONS

Use water spray, alcohol foam, carbon dioxide or dry chemical to extinguish fires. Water stream may be ineffective. Use water to keep containers cool. Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing. See Section 8 (Exposure Controls/Personal Protection) for special protective clothing.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Where exposure level is not known, wear NIOSH approved, positive pressure, self-contained respirator. Where exposure level is known, wear NIOSH approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impervious boots. Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush area with water.

7. HANDLING AND STORAGE

Keep away from heat, sparks, and flame. Do not get in eyes, on skin, on clothing. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Areas containing this material should have fire-safe practices and electrical equipment in accordance with Electrical and Fire Protection codes (NFPA-30) governing Class I Flammable Liquids and OSHA instruction STD 1-5.14A and state and local requirements.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT (PPE)

Utilize a closed system process where feasible. Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure when spraying or curing at elevated temperatures. Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands with soap and water. Prevent eye and skin contact. Wear the special protective equipment specified below for operations where eye or skin contact can occur. Prevent contamination of skin or clothing when removing protective equipment. Barrier creams may be used in conjunction with gloves to provide additional skin protection. Provide eyewash

fountain and safety shower in close proximity to points of potential exposure. Where exposures are below the Permissible Exposure Limit (PEL), no respiratory protection is required. Where exposures exceed the PEL, use respirator approved by NIOSH or full protective suit with air supply appropriate for the material and level of exposure. A full facepiece respirator also provides eye and face protection. Cutting, grinding, or sanding of parts fabricated after curing of this material may create respirable dust particles. Respiratory protection appropriate for this dust may be required. Refer to the Section 2 (Composition/Information on Ingredients) for potential hazardous components in the dust. See "GUIDE TO INDUSTRIAL RESPIRATORY PROTECTION" (NIOSH).

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Buff, black, or white volatile liquid; methyl ethyl ketone odor

BOILING POINT: 176 F; 80 C; (value for methyl ethyl ketone)

MELTING POINT: Not applicable

VAPOR PRESSURE: 75 mm Hg @ 20 C

SPECIFIC GRAVITY: 1.00-1.05 @ 20 C; (Depends on color)

VAPOR DENSITY: 2.5; (value for methyl ethyl ketone)

% VOLATILE (BY WT): 65-70

pH: Not applicable

SATURATION IN AIR (% BY VOL): Not available

EVAPORATION RATE: 5.7; (value for methyl ethyl ketone)

SOLUBILITY IN WATER: Slight

VOLATILE ORGANIC CONTENT: 660 gm/L

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: None known

POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID: None known

INCOMPATIBLE MATERIALS: Strong bases or amines, oxidizing agents. Ammonia, aldehydes, alkanolamines, chlorinated compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: oxides of carbon, hydrogen fluoride, carbonyl fluoride

11. TOXICOLOGICAL INFORMATION

Toxicological information for the product is found under Section 3. HAZARDS IDENTIFICATION. Toxicological information on the OSHA regulated components of this product is as follows:

Magnesium oxide is moderately toxic by ingestion. The TCLo for human inhalation has been estimated to be 400 mg/m³.

2-Butanone (MEK) has acute oral (rat) and dermal (rabbit) LD50 values of 2700 mg/kg and 6500 mg/kg, respectively. The acute inhalation (rat) LC50 following a 2-hour exposure is 4000 ppm (8.3 mg/L/4hr). Acute overexposure to 2-Butanone (MEK) vapor may cause eye and respiratory tract irritation, central nervous system depression, headache, nausea, dizziness and staggered gait. 2-Butanone (MEK) causes severe eye and moderate skin irritation upon contact. Chronic overexposure to 2-Butanone (MEK) vapor may cause central nervous system depression and sleepiness. In a teratogenicity study, pregnant rats inhaled 0, 400, 1000, or 3000 ppm 2-Butanone for 7 hr/day on days 6 through 15 of gestation. Exposure at these levels did not cause any serious birth defects. A few minor malformations were observed at 3000 ppm. At this level, maternal toxicity, evidenced by decreased weight gain and water intake, was observed. In another teratogenicity study, minor malformations were also observed, however, no signs of maternal toxicity were noted. MEK is reported to have shown positive results in a screening test for mutagenicity using the *S. cerevisiae* strain of yeast.

Absorption of a high dose of MEK caused death in laboratory animals. Human ingestion of MEK has caused central nervous system effects and aspiration has caused sudden death in laboratory animal tests.

No significant adverse effects were observed in epidemiology studies on talc. Acute inhalation overexposure to talc is not likely to cause adverse effects. Epidemiological studies showed that repeated exposure in the workplace produced no significant adverse effects in workers. Rats repeatedly exposed by inhalation to talc at 11 mg/m³ for up to a year showed equivocal lung injury. The LC50 in the rat after a 4-hour exposure is greater than 22 mg/L.

Magnesium carbonate can cause irritation of the nose, throat, lungs, and eyes with direct contact.

Carbon black has an oral (rat) LD50 value of >8000 mg/kg. Acute overexposure to carbon black dust may cause slight respiratory irritation. Chronic inhalation of carbon black caused lung cancer in rats, but not in mice. Human epidemiology studies have not demonstrated an association to cancer. Carbon black is negative in the Ames mutagenicity tests. The International Agency for Research on Cancer has evaluated carbon black and classified it as a possible human carcinogen (Group 2B) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans.

Acute overexposure to titanium dioxide dust is not likely to cause adverse effects. Chronic overexposure to titanium dioxide may cause some lung fibrosis. Inhalation of titanium dioxide dust at 50 times the nuisance dust level caused lung fibrosis and a slight increase in lung tumor incidence in laboratory rats. When titanium dioxide was fed to rats and mice over lifetime in a carcinogen bioassay, it was not carcinogenic.

California Proposition 65 Warning (applicable in California only) - This product contains (a) chemical(s) known to the State of California to cause cancer.

12. ECOLOGICAL INFORMATION

No aquatic LC50, BOD, or COD data available.

OCTANOL/H₂O PARTITION COEF.: Not applicable

13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the Cytec product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA "listed hazardous waste" or has any of the four RCRA "hazardous waste characteristics." Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA "listed hazardous waste"; information contained in Section 15 of this MSDS is not intended to indicate if the product is a "listed hazardous waste." RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 5 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 2 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. Cytec encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. Cytec recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. Cytec has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

SHIPPING
NAME:

**D.O.T.
SHIPPING INFORMATION**
FLAMMABLE LIQUID, N.O.S.

**IMO
SHIPPING INFORMATION**
FLAMMABLE LIQUID, N.O.S.

HAZARD CLASS/ PACKING GROUP:	3 II	3 II
UN NUMBER:	UN1993	1993
IMDG PAGE:	Not Applicable	3230
D.O.T. HAZARDOUS SUBSTANCES:	(PRODUCT REPORTABLE QUANTITY) METHYL ETHYL KETONE (7,143 LBS) ARSENIC (1,000 lbs.)	Not Applicable
TRANSPORT LABEL REQUIRED:	Flammable Liquid	Flammable Liquid
SHIPPING NAME:	ICAO/IATA FLAMMABLE LIQUID, N.O.S.	TRANSPORT CANADA FLAMMABLE LIQUID, N.O.S.
HAZARD CLASS:	3	3
SUBSIDIARY CLASS:	-	-
UN / ID NUMBER:	1993	1993
PACKING GROUP:	II	II
TRANSPORT LABEL REQUIRED:	Flammable Liquid	Flammable Liquid
PACKING INSTR:	PASSENGER 305 CARGO 307	Not Applicable
MAX NET QTY:	PASSENGER 5L CARGO 60L	Not Applicable

ADDITIONAL TRANSPORT INFORMATION

TECHNICAL NAME (N.O.S.): (Contains methyl ethyl ketone)

15. REGULATORY INFORMATION

INVENTORY INFORMATION

- US TSCA: This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S.C. 2601 et. seq.
- CANADA DSL: Components of this product have been reported to Environment Canada in accordance with subsection 25 of the Canadian Environmental Protection Act and are included on the Domestic Substances List.
- EEC EINECS: All components of this product are included in the European Inventory of Existing Chemical Substances (EINECS) in compliance with Council Directive 67/548/EEC and its amendments.

OTHER ENVIRONMENTAL INFORMATION

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

COMPONENT	CAS. NO.	%	TPQ(lbs)	RQ(lbs)	S313	TSCA 12B
2-Butanone (Methyl ethyl ketone)	000078-93-3	50.0-70.0	NONE	5000	YES	NO

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA					
ACUTE (Y)	CHRONIC (N)	FIRE (Y)	REACTIVE (N)	PRESSURE (N)	

16. OTHER INFORMATION

NFPA HAZARD RATING (National Fire Protection Association)

Fire 3	FIRE: Liquids and solids that can be ignited under almost all ambient temperature conditions.
Health 3 0 Reactivity —	HEALTH: Materials that, under emergency conditions, can cause serious or permanent injury.
Special	REACTIVITY: Materials that in themselves are normally stable, even under fire exposure conditions.

REASON FOR ISSUE:

New Company Identification

Randy Deskin, Ph.D., DABT

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MATERIAL SAFETY DATA

MSDS No: 07655
Date: 11/16/2001
Supersedes: 07/31/1998

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **DAPCO⁺ 2030 Cryogenic Sealant/Thermal Insulation Coating, Part B**

SYNONYMS: 2030-1B, 2B, 5B, 7B

CHEMICAL FAMILY: Ketimine in solvent

MOLECULAR FORMULA: Mixture

MOLECULAR WGT: Mixture

D Aircraft Products, Inc.

1191 HAWK CIRCLE, ANAHEIM, CALIFORNIA 92807 714/632-8444

EMERGENCY PHONE: For product emergency involving spill, leak, fire, exposure or accident call CHEMTREC: 1-800/424-9300. Outside the USA and Canada call 1-703/527-3887.

+Trademark

2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA REGULATED COMPONENTS

COMPONENT	CAS. NO.	%	TWA/CEILING	REFERENCE
Ethylenediamine/MIBK	025707-70-4	20	not established	
Ketimine				
Ethylenediamine	000107-15-3	<1	10 ppm 10 ppm (skin)	OSHA ACGIH
2-Butanone (Methyl ethyl ketone)	000078-93-3	80	200 ppm 300 ppm STEL	OSHA/ACGIH ACGIH

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE AND ODOR: Pale straw liquid; solvent odor

STATEMENTS OF HAZARD:

DANGER! FLAMMABLE LIQUID AND VAPOR
CAUSES BURNS OF THE EYES AND SKIN
MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION

POTENTIAL HEALTH EFFECTS

EFFECTS OF OVEREXPOSURE:

Acute oral (rat) and dermal (rabbit) LD50 values are calculated to be 2289 mg/kg and 4617 mg/kg, respectively. The acute 4-hour inhalation LC50 (rat) is estimated to be greater than 6.8 mg/L.

Direct contact with this material may cause severe eye and skin irritation.

Repeated or prolonged dermal contact with this material may cause allergic skin reactions.

Inhalation overexposure may cause allergic respiratory reaction.

Overexposure to vapor may cause respiratory tract irritation and central nervous system depression.

Refer to Section 11 for toxicology information on the regulated components of this product.

4. FIRST AID MEASURES

If swallowed, call a physician immediately. ONLY induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person.

In case of skin contact, immediately wash affected areas with soap and plenty of water. Remove contaminated clothing and shoes. Obtain medical attention. Destroy or thoroughly clean shoes before reuse. Do not reuse contaminated clothing without laundering.

In case of eye contact, immediately irrigate with plenty of water for 15 minutes. Obtain medical attention without delay.

If vapor of this material is inhaled, remove from exposure. Administer oxygen if there is difficulty in breathing. Give artificial respiration if person is not breathing and continue until normal breathing is established. Obtain medical attention without delay.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: 25 F; -4 C

METHOD: Tag Closed Cup

FLAMMABLE LIMITS

(% BY VOL): 1.8 Lower; 11.5 Upper

AUTOIGNITION TEMP: Not available

DECOMPOSITION TEMP: Not applicable

EXTINGUISHING MEDIA AND FIRE FIGHTING INSTRUCTIONS

Use water spray, alcohol foam, carbon dioxide or dry chemical to extinguish fires. Water stream may be ineffective. Use water to keep containers cool. Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing. See Section 8 (Exposure Controls/Personal Protection) for special protective clothing.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Where exposure level is not known, wear NIOSH approved, positive pressure, self-contained respirator. Where exposure level is known, wear NIOSH approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impervious boots. Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush area with water.

7. HANDLING AND STORAGE

Keep away from heat, sparks, and flame. Do not get into eyes, on skin, on clothing. Avoid breathing vapor. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Areas containing this material should have fire-safe practices and electrical equipment in accordance with Electrical and Fire Protection codes (NFPA-30) governing Class I Flammable Liquids and OSHA instruction STD 1-5.14A and state and local requirements.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT (PPE)

Utilize a closed system process where feasible. Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure when spraying or curing at elevated temperatures. Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands with soap and water. Prevent eye and skin contact. Wear the special protective equipment specified below for operations where eye

or skin contact can occur. Prevent contamination of skin or clothing when removing protective equipment. Barrier creams may be used in conjunction with gloves to provide additional skin protection. Provide eyewash fountain and safety shower in close proximity to points of potential exposure. Where exposures are below the Permissible Exposure Limit (PEL), no respiratory protection is required. Where exposures exceed the PEL, use respirator approved by NIOSH or full protective suit with air supply appropriate for the material and level of exposure. A full facepiece respirator also provides eye and face protection. Cutting, grinding, or sanding of parts fabricated after curing of this material may create respirable dust particles. Respiratory protection appropriate for this dust may be required. Refer to the Section 2 (Composition/Information on Ingredients) for potential hazardous components in the dust. See "GUIDE TO INDUSTRIAL RESPIRATORY PROTECTION" (NIOSH).

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Pale straw liquid; solvent odor

BOILING POINT: 175 F; 79 C; (value for methyl ethyl ketone)

MELTING POINT: Not applicable

VAPOR PRESSURE: 83 mm Hg @ 24 C

SPECIFIC GRAVITY: 0.81 @ 20 C

VAPOR DENSITY: 2.5

% VOLATILE (BY WT): 99

pH: Not applicable

SATURATION IN AIR (% BY VOL): Not available

EVAPORATION RATE: >1

SOLUBILITY IN WATER: Reacts with water

VOLATILE ORGANIC CONTENT: 800 gm/L

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: None known

POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID: None known

INCOMPATIBLE MATERIALS: Oxidizing agents Potassium t-butoxide

HAZARDOUS DECOMPOSITION PRODUCTS: ethylene diamine; methyl isobutyl ketone; nitrogen oxide; carbon monoxide; carbon dioxide; water

11. TOXICOLOGICAL INFORMATION

Toxicological information for the product is found under Section 3. HAZARDS IDENTIFICATION. Toxicological information on the OSHA regulated components of this product is as follows:

Ethylenediamine/MIBK Ketimine has acute oral (rat) and dermal (rabbit) LD50 values of 1600 mg/kg and 2500 mg/kg, respectively. Ethylenediamine/MIBK Ketimine is corrosive to eyes and skin. Overexposure to ethylenediamine/MIBK Ketimine can cause allergic skin and respiratory reaction. Allergic respiratory reaction is evidenced by asthma like symptoms. Inhalation of vapors can cause respiratory tract irritation.

Ethylenediamine has acute oral (rat) and dermal (rabbit) LD50 values of 500 mg/kg and 730 mg/kg, respectively. The acute 8-hour inhalation LC50 (rat) is 4000 ppm (10.2 mg/L). Direct contact with liquid ethylenediamine can cause burns of the eyes and skin. Prolonged or repeated exposure may result in allergic skin reaction. Inhalation of ethylenediamine vapors can cause irritation of the eyes, nose, and throat.

2-Butanone (MEK) has acute oral (rat) and dermal (rabbit) LD50 values of 2700 mg/kg and 6500 mg/kg, respectively. The acute inhalation (rat) LC50 following a 2-hour exposure is 4000 ppm (8.3 mg/L/4hr). Acute overexposure to 2-Butanone (MEK) vapor may cause eye and respiratory tract irritation, central nervous system depression, headache, nausea, dizziness and staggered gait. 2-Butanone (MEK) causes severe eye and

moderate skin irritation upon contact. Chronic overexposure to 2-Butanone (MEK) vapor may cause central nervous system depression and sleepiness. In a teratogenicity study, pregnant rats inhaled 0, 400, 1000, or 3000 ppm 2-Butanone for 7 hr/day on days 6 through 15 of gestation. Exposure at these levels did not cause any serious birth defects. A few minor malformations were observed at 3000 ppm. At this level, maternal toxicity, evidenced by decreased weight gain and water intake, was observed. In another teratogenicity study, minor malformations were also observed, however, no signs of maternal toxicity were noted. MEK is reported to have shown positive results in a screening test for mutagenicity using the *S. cerevisiae* strain of yeast. Absorption of a high dose of MEK caused death in laboratory animals. Human ingestion of MEK has caused central nervous system effects and aspiration has caused sudden death in laboratory animal tests.

12. ECOLOGICAL INFORMATION

No aquatic LC50, BOD, or COD data available.
 OCTANOL/H₂O PARTITION COEF.: Not applicable

13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the Cytec product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA "listed hazardous waste" or has any of the four RCRA "hazardous waste characteristics." Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA "listed hazardous waste"; information contained in Section 15 of this MSDS is not intended to indicate if the product is a "listed hazardous waste." RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 5 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 2 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. Cytec encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. Cytec recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. Cytec has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

	D.O.T. SHIPPING INFORMATION	IMO SHIPPING INFORMATION
SHIPPING NAME:	FLAMMABLE LIQUID, CORROSIVE, N.O.S.	FLAMMABLE LIQUID, CORROSIVE, N.O.S.
HAZARD CLASS/ PACKING GROUP:	3 II	3 II
UN NUMBER:	UN2924	2924
IMDG PAGE:	Not Applicable	3231
D.O.T. HAZARDOUS SUBSTANCES:	(PRODUCT REPORTABLE QUANTITY) Methyl Ethyl Ketone (6250 lbs)	Not Applicable

TRANSPORT LABEL REQUIRED:	Flammable Liquid Corrosive	Flammable Liquid Corrosive
SHIPPING NAME:	ICAO/IATA FLAMMABLE LIQUID, CORROSIVE, N.O.S.	TRANSPORT CANADA FLAMMABLE LIQUID, CORROSIVE, N.O.S.
HAZARD CLASS:	3	3
SUBSIDIARY CLASS:	8	8
UN / ID NUMBER:	2924	2924
PACKING GROUP:	II	II
TRANSPORT LABEL REQUIRED:	Flammable Liquid Corrosive	Flammable Liquid Corrosive
PACKING INSTR:	PASSENGER 305 CARGO 307	Not Applicable
MAX NET QTY:	PASSENGER 1L CARGO 5L	Not Applicable

ADDITIONAL TRANSPORT INFORMATION

TECHNICAL NAME (N.O.S.): (Contains MEK, and ethylene diamine)

15. REGULATORY INFORMATION

INVENTORY INFORMATION

- US TSCA: All components of this product are included on the TSCA Inventory in compliance with the Toxic Substances Control Act, 15 U. S. C. 2601 et. seq.
- CANADA DSL: Components of this product have been reported to Environment Canada in accordance with subsection 25 of the Canadian Environmental Protection Act and are included on the Domestic Substances List.
- EEC EINECS: All components of this product are included in the European Inventory of Existing Chemical Substances (EINECS) in compliance with Council Directive 67/548/EEC and its amendments.

OTHER ENVIRONMENTAL INFORMATION

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

COMPONENT	CAS. NO.	%	TPQ(lbs)	RQ(lbs)	S313	TSCA 12B
2-Butanone (Methyl ethyl ketone)	000078-93-3	80	NONE	5000	YES	NO

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA				
ACUTE (Y)	CHRONIC (N)	FIRE (Y)	REACTIVE (N)	PRESSURE (N)

16. OTHER INFORMATION

NFPA HAZARD RATING (National Fire Protection Association)

Fire	3	FIRE: Liquids and solids that can be ignited under almost all ambient temperature conditions.
Health	3 0	HEALTH: Materials that, under emergency conditions, can cause serious or permanent injury.
Reactivity	—	REACTIVITY: Materials that in themselves are normally stable, even under fire exposure conditions.
Special		

REASON FOR ISSUE:

New Company Identification

Randy Deskin, Ph.D., DABT

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