

DATE: November 10, 1971



UNIROYAL CHEMICAL
Division of UNIROYAL, Inc.
Elm Street
Naugatuck, Connecticut 06770
203-794-1111 - 123-3000

PRODUCT SAFETY DATA SHEET

Trade Name: ^(R)
FLEXZONE 6H

Uses: Antiozonant/Antioxidant

Chemical Name: N-phenyl-N'-cyclohexyl-p-phenylenediamine

Chemical and Physical Properties

Appearance: Purple powder

Melting Point: 100°C (min.)

Solubility: Soluble in acetone. Slightly soluble in water and hydrocarbons.

Specific Gravity: 1.18

Corrosivity: Not corrosive

Volatility: Not volatile

Fire and Explosion Hazard

Flash Point: --

Autoignition Temperature: Above normal processing temperatures.

Special Decomposition/Reactivity Precautions: None

Fire Fighting Media and Procedures: Water spray, foam, CO₂

DO 086212
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Health Related Data

Specific Hazard: Some skin irritation potential.

Handling Precautions: Avoid breathing dust or vapors. Avoid skin and eye contact. Wash thoroughly after use.

First Aid Procedures: If eye contact occurs, flush with plenty of water and see physician.

Toxicology Background: Oral LD₅₀ (rats) : over 2 gms./kg.

Human patch testing and experience have not indicated the material to cause irritation or sensitization. However, as with any phenylenediamine derivative, care should be used in handling. People sensitized to other p-phenylenediamines may encounter dermatitis problems.

Storage and Waste Disposal

Storage: Store in cool, dry place.

Cleanup: Avoid creating excessive dust.

Disposal: In accordance with local regulations regarding disposal of organic chemical wastes.

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Data Supplied By: R. J. DOWLING

FLEXON 845

EXXON COMPANY, U.S.A.
A DIVISION OF EXXON CORPORATION

DATE ISSUED 7/1/85

MATERIAL SAFETY DATA SHEET

EXXON COMPANY, U.S.A. P.O. BOX 2180 HOUSTON, TX 77252-2180

A. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME
FLEXON 845

PRODUCT CODE
346055 - 03335

CHEMICAL NAME
Petroleum Process Oil

CAS NUMBER
64742-54-7 or
64742-65-0

PRODUCT APPEARANCE AND ODOR
Clear liquid, yellow color
Bland petroleum odor

EMERGENCY TELEPHONE NUMBER
(713) 656-3424

B. COMPONENTS AND HAZARD INFORMATION

COMPONENTS

**CAS NO. OF
COMPONENTS**

**APPROXIMATE
CONCENTRATION**

Hydrotreated heavy paraffinic
distillate, petroleum

64742-54-7

100%

or

or

Solvent dewaxed heavy paraffinic
distillate, petroleum

64742-65-0

EXPOSURE LIMIT FOR TOTAL PRODUCT
5 mg/m3 for oil mist in air

BASIS
OSHA Regulation 29 CFR 1910.1000

C. EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT

If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN CONTACT

In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water.

INHALATION

Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

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INGESTION

If ingested, call a physician immediately.

D. FIRE AND EXPLOSION HAZARD INFORMATION**FLASH POINT (MINIMUM)**

205°C (400°F)

ASTM D 92, Cleveland Open Cup

AUTOIGNITION TEMPERATURE

Greater than 260°C (500°F)

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)

Estimated values: Lower Flammable Limit 0.9% Upper Flammable Limit 7%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES

Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Eighth Edition (1984):

Use water spray, dry chemical, foam or carbon dioxide. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

"EMPTY" CONTAINER WARNING

"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

E. HEALTH AND HAZARD INFORMATION**VARIABILITY AMONG INDIVIDUALS**

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)

Prolonged or repeated skin contact may cause skin irritation.

NATURE OF HAZARD

Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis.

Product contacting the eyes may cause eye irritation.

TOXICITY INFORMATION

Product has a low order of acute oral toxicity.

F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE

IBP Approximately 293°C (560°F)
by ASTM D 2887

VAPOR PRESSURE

Less than 0.01 mm Hg @ 20°C

SPECIFIC GRAVITY (15.6 C/15.6 C)

0.87

VAPOR DENSITY (AIR = 1)

Greater than 5

MOLECULAR WEIGHT

Approximately 400

PERCENT VOLATILE BY VOLUME

Negligible from open container
in 4 hours @ 38°C (100°F)

PH

Essentially neutral

EVAPORATION RATE @ 1 ATM. AND 25 C (77 F)

(n-BUTYL ACETATE = 1)

Less than 0.01

POUR, CONGEALING OR MELTING POINT

-9°C (15°F)

Pour Point by ASTM D 97

SOLUBILITY IN WATER @ 1 ATM. AND 25 C (77 F)

Negligible; less than 0.1%

VISCOSITY

154 SSU @ 100°F

G. REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

H. SPILL OR LEAK PROCEDURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Recover free product. Add sand, earth, or other suitable absorbent to spill area. Minimize skin contact. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas. Assure conformity with applicable governmental regulations.

I. PROTECTION AND PRECAUTIONS**VENTILATION**

Use local exhaust to capture vapor, mists or fumes, if necessary. Provide greater than 60 feet per minute hood face velocity for confined spaces. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. Use explosion-proof equipment. No smoking or open lights.

RESPIRATORY PROTECTION

Normally not needed at ambient temperatures. Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

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PROTECTIVE GLOVES

Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION

Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT

Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS

Keep containers closed when not in use. Do not handle or store near heat, sparks, flame or strong oxidants.

PERSONAL HYGIENE

Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

J. TRANSPORTATION INFORMATION

TRANSPORTATION INCIDENT INFORMATION

For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.3.

The information and recommendations contained herein are, to the best of Exxon's knowledge and belief, accurate and reliable as of the date issued. Exxon does not warrant or guarantee their accuracy or reliability, and Exxon shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use.

FOR ADDITIONAL INFORMATION ON HEALTH EFFECTS CONTACT:

DIRECTOR OF INDUSTRIAL HYGIENE
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 2737
HOUSTON, TX 77252-2180
(713) 656-2443

FOR OTHER PRODUCT INFORMATION CONTACT:

MANAGER, MARKETING TECHNICAL SERVICES
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 2455
HOUSTON, TX 77252-2180
(713) 656-5949

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FLEXON 680

EXXON COMPANY, U.S.A.
A DIVISION OF EXXON CORPORATION

DATE ISSUED 7/1/85

MATERIAL SAFETY DATA SHEET

EXXON COMPANY, U.S.A. P.O. BOX 2180 HOUSTON, TX 77252-2180

A. IDENTIFICATION AND EMERGENCY INFORMATION**PRODUCT NAME**
FLEXON 680**PRODUCT CODE**
346039 - 03341**CHEMICAL NAME**
Petroleum Process Oil**CAS NUMBER**
64742-52-5**PRODUCT APPEARANCE AND ODOR**
Clear, orange-red liquid
Mild medicinal odor**EMERGENCY TELEPHONE NUMBER**
(713) 656-3424**B. COMPONENTS AND HAZARD INFORMATION****COMPONENTS****CAS NO. OF
COMPONENTS****APPROXIMATE
CONCENTRATION**Hydrotreated heavy naphthenic
distillate, petroleum

64742-52-5

100%

EXPOSURE LIMIT FOR TOTAL PRODUCT
5 mg/m3 for oil mist in air**BASIS**
OSHA Regulation 29 CFR 1910.1000**C. EMERGENCY AND FIRST AID PROCEDURES****EYE CONTACT**

If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN CONTACT

In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water.

INHALATION

Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

INGESTION

If ingested, call a physician immediately.

DO 086218
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D. FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT (MINIMUM)

221°C (430°F)
ASTM D 92, Cleveland Open Cup

AUTOIGNITION TEMPERATURE

Greater than 260°C (500°F)

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)

Estimated values: Lower Flammable Limit 0.9% Upper Flammable Limit 7%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES

Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Eighth Edition (1984):

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DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

"EMPTY" CONTAINER WARNING

"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

E. HEALTH AND HAZARD INFORMATION

VARIABILITY AMONG INDIVIDUALS

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)

Prolonged or repeated skin contact may cause skin irritation.

NATURE OF HAZARD

Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis.

Product contacting the eyes may cause eye irritation.

TOXICITY INFORMATION

Product has a low order of acute oral toxicity.

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F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE

IBP Approximately 366°C (690°F)
by ASTM D 2887

VAPOR PRESSURE

Less than 0.01 mm Hg @ 20°C

SPECIFIC GRAVITY (15.6 C/15.6 C)

0.93

VAPOR DENSITY (AIR = 1)

Greater than 5

MOLECULAR WEIGHT

Approximately 480

PERCENT VOLATILE BY VOLUME

Negligible from open container
in 4 hours @ 38°C (100°F)

pH

Essentially neutral

EVAPORATION RATE @ 1 ATM. AND 25 C (77 F)

(n-BUTYL ACETATE = 1)

Less than 0.01

POUR, CONGEALING OR MELTING POINT

-6°C (20°F)

Pour Point by ASTM D 97

SOLUBILITY IN WATER @ 1 ATM. AND 25 C (77 F)

Negligible; less than 0.1%

VISCOSITY

1.225 SSU @ 100°F

G. REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

H. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Recover free product. Add sand, earth, or other suitable absorbent to spill area. Minimize skin contact. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas. Assure conformity with applicable governmental regulations.

I. PROTECTION AND PRECAUTIONS

VENTILATION

Use local exhaust to capture vapor, mists or fumes, if necessary. Provide greater than 60 feet per minute hood face velocity for confined spaces. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. Use explosion-proof equipment. No smoking or open lights.

RESPIRATORY PROTECTION

Normally not needed at ambient temperatures. Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES

Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

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EYE PROTECTION

Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT

Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS

Keep containers closed when not in use. Do not handle or store near heat, sparks, flame or strong oxidants.

PERSONAL HYGIENE

Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

J. TRANSPORTATION INFORMATION

TRANSPORTATION INCIDENT INFORMATION

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DIRECTOR OF INDUSTRIAL HYGIENE
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P. O. BOX 2180 ROOM 2737
HOUSTON, TX 77252-2180
(713) 656-2443

FOR OTHER PRODUCT INFORMATION CONTACT:

MANAGER, MARKETING TECHNICAL SERVICES
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 2455
HOUSTON, TX 77252-2180
(713) 656-5949



MATERIAL SAFETY DATA SHEET

Meeting OSHA Standard 29CFR §1910.1200 (g)



EFFECTIVE DATE: October 25, 1985

SECTION I: PRODUCT IDENTIFICATION

PRODUCT TRADE NAME FIREBRAKE® ZB

CHEMICAL NAME AND SYNONYMS Zinc Borate (2.3.3.5)
ZB 2335

CAS NO. 12447-61-9

CHEMICAL FAMILY: Borate

FORMULA:

HAZARD RATING: NFPA Health 0
Flammability 0
Reactivity 0

$2 \text{ ZnO} \cdot 3 \text{ B}_2\text{O}_3 \cdot 3.5 \text{ H}_2\text{O}$

SECTION II: HAZARDOUS INGREDIENTS

Material or Component	%	Material or Component	%
None		"WARNING: This product contains trace amounts of arsenic, a chemical known to the State of California to cause cancer. Exposure to arsenic from this product will not exceed the Federal OSHA PEL unless used in a manner that produces extremely heavy airborne concentrations of borate material at levels many times allowable Federal OSHA limits."	

SECTION III: PHYSICAL DATA

Specific gravity: 2.8 g/cm^3 Appearance: White powder, odorless Negligible solubility in water below 100°F Average particle size: 2-10 microns Hydrolyzes with acids and bases	Molecular weight 434.66 Reportive index 1.58 Crystal density 2.8 g/cm^3 Bulk density 30-50 lbs/cubic foot Oil absorption 43 g oil/100g.
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DO 086222
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24 HOUR EMERGENCY TELEPHONE NUMBER: (714) 774-2673

CONTACT: John C. Middleton, Manager, Product Safety

"The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein."

UNITED STATES BORAX & CHEMICAL CORPORATION • 3075 WILSHIRE BLVD. LOS ANGELES, CA 90010

SECTION IV — HEALTH HAZARD INFORMATION

EFFECTS OF EXPOSURE (SYMPTOMS)

INGESTION: Not an acute poison. May cause nausea.

ACUTE ORAL LD₅₀ (albino rats) greater than 10 gram/Kg body weight.

EYE: (16CFR §1500.42) May cause slight conjunctivitis. Not an irritant.

SKIN: Non-irritating.

ACUTE DERMAL LD₅₀ (16CFR §1500.40) Greater than 10g/Kg body weight on albino rabbits.

PRIMARY SKIN IRRITATION INDEX: (16CFR §1500.41) - 0 (rabbits)

CORROSIVE

NON CORROSIVE: - X

INHALATION May be irritating to mucous tissues.

ACUTE LC₅₀ Not tested.

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EFFECTS OF OVEREXPOSURE**ACUTE OVEREXPOSURE/METHOD OF EXPOSURE/SYMPTOMS**

Eyes: As with any powder or dust, may be irritating. Reversible
Inhalation: May cause sneezing and coughing.
Ingestion: May cause nausea, vomiting, diarrhea.
Skin: On unbroken skin no effect.

CHRONIC OVEREXPOSURE/METHOD OF EXPOSURE/SYMPTOMS

Eyes: May cause conjunctivitis. Reversible.
Inhalation: May be irritating to mucous tissue.
Ingestion: May cause nausea, vomiting, diarrhea.
Skin: No effects.

OSHA Permissible Exposure LIMIT (PEL) Not listed. 29CFR §1910 Subpart Z

ACGIH Recommended Threshold Limit Value Not listed.

NOTE: Not mutagenic when tested in the Salmonella/Microsomal
Mutagenicity Plate Incorporation assay.

National Toxicology Program Annual Report on Carcinogens

Year 1983 Listed Not Listed - X

International Agency for Research on Cancer (IARC)

Monograph Yes
No - X

OSHA CARCINOGEN No

EMERGENCY AND FIRST AID PROCEDURES: +

EYES Flush with tepid water for 15 minutes. If irritation persists consult physician.

SKIN Wash area with soap and water.

INHALATION Remove to fresh air.

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(CONT PAGE 4)

UNITED STATES BORAX & CHEMICAL CORPORATION • 3075 WILSHIRE BLVD., LOS ANGELES, CA 90010

 **USBORAX**

EMERGENCY AND FIRST AID PROCEDURES: +

(CONT FROM PAGE 3)

INGESTION

Induce vomiting. Drink large amounts of milk or water.

NOTE TO PHYSICIAN

Not an acute poison. Since product hydrolyzes on contact with acids treat for borate ingestion. Gastric lavage with 5% sodium bicarbonate solution. For severe cases intravenous Ringer's solution is suggested. Contact emergency number on Page 1 for medical consultation on further management.

SECTION V — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) Not applicable FLAMMABLE LIMITS Lel Uel

EXTINGUISHING MEDIA Not applicable. Product is fire retardant.

SPECIAL FIREFIGHTING PROCEDURES - None

UNUSUAL FIRE AND EXPLOSION HAZARDS - None

SECTION VI — REACTIVITY DATA

STABILITY UNSTABLE CONDITIONS TO AVOID

STABLE - X

INCOMPATIBILITY (materials to avoid) Hydrolyzes when in contact with acids or bases.

HAZARDOUS DECOMPOSITION PRODUCTS - None

HAZARDOUS POLYMERIZATION MAY OCCUR WILL NOT OCCUR - X

CONDITIONS TO AVOID None known.

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SECTION VII — SPILL OR LEAK PROCEDURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Sweep or vacuum and put into sealed metal container. Rinse area with water.

WASTE DISPOSAL METHOD

Zinc borate is not listed as a Hazardous Waste in 40CFR §261. Check with local authorities regarding disposal requirements.

SECTION VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) 3M Co. model 8710 or COMFO II with particulate filler

VENTILATION LOCAL EXHAUST Standard SPECIAL

MECHANICAL (General) Standard OTHER

PROTECTIVE GLOVES
Not necessary

EYE PROTECTION
Dust goggles suggested
ANSI Standard Z87-1-1968
Type ENCON 160

OTHER PROTECTIVE EQUIPMENT

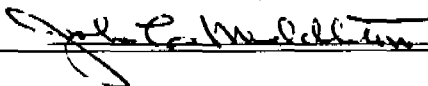
SECTION IX — SPECIAL PRECAUTIONS**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Dry indoor storage.

OTHER PRECAUTIONS

Note disposal procedures above.

DATE: 10/25/85

SIGNATURE: 

DO 086226
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M A T E R I A L S A F E T Y D A T A S H E E T	
CIBA-GEIGY CORPORATION PLASTICS & ADDITIVES DIVISION THREE SKYLINE DRIVE HAWTHORNE, NEW YORK 10532	EMERGENCY PHONE NUMBERS: SAFETY/HEALTH: (914) 347-4700 AFTER HOURS : (800) 334-9481

SECTION I-IDENTITY INFORMATION

IDENTITY (TRADE NAME): FILESTER VIOLET BA

FAMILY/CHEMICAL NAME:
 ANTHRAQUINONE
 C.I. DISPERSE VIOLET 57
 PRODUCT TYPE:
 COLORANT
 HAZARD STATEMENT :

* * * * *
 * THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN *
 * PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD *
 * COMMUNICATION STANDARD 29 CFR 1910.1200. *
 * THIS PRODUCT IS NOT CONSIDERED TO BE A HAZARDOUS *
 * CHEMICAL UNDER THAT STANDARD. *
 * * * * *

SECTION II-HAZARDOUS INGREDIENTS

NOT APPLICABLE.

SECTION III-PHYSICAL DATA

APPEARANCE AND ODOR:
 VIOLET POWDER, ODORLESS
 MELTING POINT:
 APPROX. 185C
 DECOMPOSITION TEMPERATURE:
 >300C
 SOLUBILITY IN WATER:
 INSOLUBLE.
 SPECIFIC GRAVITY:
 NOT AVAILABLE.

FILESTER VIOLET BA

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SECTION IV-FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:
NOT APPLICABLE.
FLAMMABLE LIMITS IN AIR-LOWER:
NOT APPLICABLE.
FLAMMABLE LIMITS IN AIR-UPPER:
NOT APPLICABLE.
EXTINGUISHING MEDIA:
CARBON DIOXIDE, DRY CHEMICAL, FOAM, WATER.
FIRE FIGHTING PROCEDURES-SPECIAL:
USE SELF-CONTAINED BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
DECOMPOSITION AND COMBUSTION PRODUCTS MAY BE TOXIC.
DUST CLOUDS FROM PIGMENT POWDER CAN CREATE A DUST
EXPLOSION HAZARD.

SECTION V-REACTIVITY DATA

STABILITY:
STABLE.
HAZARDOUS POLYMERIZATION:
WILL NOT OCCUR.

SECTION VI-HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE:
INHALATION.
ORAL LD50:
(RATS) >5000 MG/KG
SKIN IRRITATION:
(RABBITS) NON-IRRITATING.
EYE IRRITATION:
(RABBITS) NON-IRRITATING.
SENSITIZATION:
NOT AVAILABLE.
INHALATION LC50:
NOT AVAILABLE.
OVEREXPOSURE EFFECTS:
NOT AVAILABLE
SIGNS AND SYMPTOMS OF EXPOSURE:
NOT AVAILABLE.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
NOT AVAILABLE.
EMERGENCY AND FIRST AID PROCEDURES-EYES:
IMMEDIATELY FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES.
CALL A PHYSICIAN.
EMERGENCY AND FIRST AID PROCEDURES-SKIN:
WASH WITH MILD SOAP AND WATER.
EMERGENCY AND FIRST AID PROCEDURES-INGESTION:
IF CONSCIOUS, GIVE LARGE QUANTITIES OF WATER.
INDUCE VOMITING. CALL A PHYSICIAN.

FILESTER VIOLET BA

DO 086228
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EMERGENCY AND FIRST AID PROCEDURES-INHALATION:
REMOVE TO FRESH AIR. IF BREATHING HAS STOPPED GIVE
ARTIFICIAL RESPIRATION. CALL A PHYSICIAN.

SECTION VII-SPILL OR LEAK PROCEDURES

SPILL PROCEDURES:

COLLECT AND PLACE INTO A CLOSABLE CONTAINER FOR DISPOSAL.
WEAR PROTECTIVE EQUIPMENT SPECIFIED BELOW.

WASTE DISPOSAL METHODS:

DISPOSE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL
REGULATIONS.

SECTION VIII-SPECIAL PROTECTION INFORMATION

VENTILATION:

USE LOCAL EXHAUST.

PROTECTIVE GLOVES:

WEAR IMPERVIOUS GLOVES.

EYE PROTECTION:

WEAR SIDE-SHIELD CHEMICAL SAFETY GLASSES.

RESPIRATORY PROTECTION:

USE NIOSH APPROVED DUST MASK.

SECTION IX-SPECIAL PRECAUTIONS

HANDLING, SHIPPING AND STORING PRECAUTIONS:

NOTICE: IN ACCORDANCE WITH GOOD INDUSTRIAL PRACTICE,
HANDLE WITH CARE AND AVOID PERSONAL CONTACT.
AVOID BREATHING DUST, MIST, OR VAPORS. USE WITH ADEQUATE
VENTILATION.
WASH HANDS AND FACE THOROUGHLY AFTER HANDLING AND BEFORE
EATING, DRINKING, OR USING TOBACCO PRODUCTS.
KEEP CONTAINER CLOSED WHEN NOT IN USE.
FOR INDUSTRIAL USE ONLY.

SECTION X- REGULATORY INFORMATION

DOT CLASS:

NOT REGULATED.

DOT NUMBER:

NOT APPLICABLE.

ISSUE DATE: 06/17/86 REVISION: 01C
FOR FURTHER INFORMATION, PLEASE CONTACT: ALAN SCHENKEL

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE
BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE
OR WARRANTY OF ANY KIND EXPRESSED OR IMPLIED IS MADE WITH
RESPECT TO THE INFORMATION CONTAINED HEREIN.

**Material Safety
Data Sheet**

10-3898-3

Commercial Chemical Division/3M

3M Center
St. Paul, Minnesota 55144
612/733-1110



Trade Name

EC-2120 FLUOREL Brand Fluoroelastomer

Chemical Family

Fluorinated Elastomer

3M ID. Number

98-0211-1216-8 (55 lb. unit)

1. Ingredients

**Fluoroelastomer
Curative (Quaternary Phosphonium/Polyphenol)**

CAS #

**9011-17-0
Mixture**

%

**>95
<5**

TLV (Unit)

**NE
NE**

NE = Not Established

2. Physical Data

Boiling Point	NA	Solubility in Water	Negligible
Vapor Pressure	NA	Specific Gravity (H ₂ O = 1)	-1.8
Vapor Density (Air = 1)	NA	Percent Volatile	0
Evaporation Rate	NA	pH	NA

Appearance and Odor

Off-white, rubbery solid.

3. Flammability and Explosion Hazard Data

Flash Point (Test Method)

Setaflash CC >450 F

Flammable Limits: LEL = **NA**

UEL = **NA**

Extinguishing Media

Water, Foam, CO₂, Dry Chemical

Special Fire Fighting Procedures

None Known

Unusual Fire and Explosion Hazards

Toxic by-products, including HF, may be formed.

4. Environmental Information

Spill Response

Observe precautions from other sections. Collect spilled material.

Recommended Disposal

For quantities <100 lbs.: Dispose of waste product in a sanitary landfill. Dispose of bulk product in a facility permitted to accept chemical wastes. Or: Mix with flammable material and incinerate in an industrial or commercial facility. Combustion products will include HF. Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA Hazardous Waste No.: None

Environmental Data

Not determined.

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Threshold Limit Values listed above are current to **1984**. Because they are reviewed yearly by ACGIH and subject to change (usually to a lower value) it is necessary for the user of this Material Safety Data Sheet to maintain a list of revised TLV's and update the sheet periodically.

Trade Name **FC-2120 FLUOREL Brand Fluoroelastomer**

5. Health Hazard Data

Eye Contact

Animal studies indicate FC-2120 crumb is practically non-irritating ocularly (FHSA score 1.7/110.0).

Skin Contact

Animal studies indicate FLUOREL Brand Elastomers are non-irritating dermally. Persons working with the product would have a low potential for developing skin irritation.

Inhalation

No hazard at temperatures below the thermal decomposition point. At temperatures >660 F, breakdown to HF and short chain fluorocarbons, which are irritating and toxic, begins.

Ingestion

Not Applicable.

Suggested First Aid

EYE CONTACT: Immediately flush with plenty of water. Call a physician.

SKIN CONTACT: Wash affected area with soap and water.

INHALATION: Remove to fresh air.

6. Reactivity Data

Stability	Unstable	☒	Stable
	Conditions To Avoid Not Applicable		
Incompatibility	Materials To Avoid Al or Mg powder & high shear/temperature conditions.		
	May Occur	☒	Will Not Occur
Hazardous Polymerization	Conditions To Avoid Not Applicable		

Hazardous Decomposition Products

Thermal decomposition may produce toxic materials including HF.

7. Special Protection Information

Eye Protection Safety Glasses	Skin Protection Normal Industrial Attire.
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Ventilation

General ventilation adequate below 660 F. Local exhaust recommended above 660 F.

Respiratory and Special Protection

If decomposition occurs, use organic vapor and acid gas cartridge mask.

8. Precautionary Information

Avoid inhalation of decomposition products. Store below 100 F. Prevent moisture contamination. Do not smoke while handling.

9. Department of Transportation

Proper Shipping Name -	DOT Hazard Class -
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NA = Not Applicable ND = Not Determined

Issue Date Nov-1985	Supersedes Feb-1985
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