PLAINTIFF'S EXHIBIT
UC-866

UCAR EMULSION SYSTEMS

UNION CARBIDE CORPORATION • 410 GREGSON DRIVE, CARY, N.C. 27511 (919) 469-6700

UNION CARBIDE

MATERIAL SAFETY DATA SHEET

UCAR Emulsion Systems urges the customer receiving this Material Safety Data Sheet to study it carefully to become aware of hazards, if any, of the product involved. In the interest of safety you should: (1) notify your employees, agents, and contractors of the information on this sheet, (2) furnish a copy to each of your customers for the product, and (3) request your customers to inform their employees and customers as well.

PREPARED BY	W. P. Miller	DATE	November 8, 1985
EMERGENCY CALL	1-800-UCC-HELP (1-800-822-4357)	REPLACES	New

SECTION I. IDENTIFICATION

PRODUCT NAME	UCAR® Latex BX-3178
PRODUCT STATUS	Commercial
CHEMICAL NAME OR SYNONYMS	Styrene-Acrylic Latex
CAS NAME AND NUMBER	Not available (mixture)
DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION AND SHIPPING NAME	None

SECTION II: INGREDIENTS

INGREDIENT	APPROX. WT. %	TLV
Polymer plus Proprietary Additives	47	None Established
Water	53	---
Acrylonitrile	<0.001	See Section IX
Formaldehyde	0.1	See Section IX

SECTION III: PHYSICAL DATA

APPEARANCE AND ODOR	White milky fluid, mild odor
APPROX. FREEZING PT; BOILING PT & VAPOR PRESSURE	Same as Water
SOLUBILITY IN WATER	Dilutable
SPECIFIC GRAVITY....(Water = 1)	1 to 1.2
PERCENT VOLATILE	~53 Wt. % (Water)
pH	~5
VAPOR DENSITY.....(Air = 1)	<1 (Heavier)
EVAPORATION RATE....(Butyl Acetate = 1)	<1 (Slower)

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SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, AUTOIGNITION TEMPERATURE, UPPER AND LOWER EXPLOSIVE LIMITS (%)
Not determined (aqueous system).

EXTINGUISHING MEDIA
Non-flammable (aqueous emulsion). After water evaporates, remaining material will burn. Use alcohol type or all-purpose foam for large fires. Use CO_2 or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES
Breathing apparatus when fighting fires in enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Product will not burn but may spatter if temperature exceeds boiling point of water. Dried solids can burn, giving off oxides of carbon and nitrogen.

SECTION V: REACTIVITY DATA

This product is stable and hazardous polymerization will not occur. No "condition to avoid" and "materials to avoid" are known to UCAR Emulsion Systems.

SECTION VI: HEALTH HAZARD DATA

A. EXPOSURE LIMITS
OSHA Permissible Exposure Limit (PEL) and Threshhold Limit Value (ACGIH): Not Established

B. EFFECTS OF ACUTE OVEREXPOSURE

SWALLOWING AND SKIN ABSORPTION
No evidence of adverse effects from available information.

INHALATION
Trace component and residual monomer vapors may be irritating to eyes, skin, mucous membranes, respiratory tract, and may produce symptoms of headache, nausea in poorly ventilated areas.

SKIN CONTACT
Prolonged contact may cause transient reddening of the skin.

EYE CONTACT
Direct contact may cause eye irritation.

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SECTION VI: HEALTH HAZARD DATA (continued)

C. EFFECTS OF REPEATED OVEREXPOSURE, AND OTHER HEALTH HAZARDS

No evidence of adverse effects from available information.

D. EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING

No harmful effects expected.

INHALATION

No emergency care anticipated.

EYES & SKIN

Immediately flush eyes with water until water is no longer cloudy; wash skin with soap and water until water is not cloudy. If clothing is soaked, remove and wash before reuse.

NOTES TO PHYSICIAN

Toxicology studies of similar material have shown the material to be of very low acute toxicity. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

SECTION VII: SPILL OR LEAK PROCEDURE

A. STEPS TO TAKE IN CASE OF SPILL OR LEAK

Restrict area to only those personnel needed. Major spills should be collected for disposal. Minor spills may be flushed to sewer if permitted by state, federal and local regulations.

B. WASTE DISPOSAL METHODS

Incinerate or bury in suitable landfill where permitted by appropriate government regulations.

SECTION VIII: SPECIAL PROTECTION INFORMATION

A. RESPIRATORY PROTECTION

None should be required. Use MSHA/NIOSH-approved respirator in poorly ventilated areas.

B. VENTILATION

General (mechanical) room ventilation is expected to be satisfactory. Use local exhaust if needed to control mist or vapor.

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SECTION VIII: SPECIAL PROTECTION INFORMATION (continued)

C. EYE PROTECTION
Safety glasses and available eye bath.

D. PROTECTIVE GLOVES
Use gloves impervious to water and soap.

SECTION IX. TOXICITY INFORMATION

Avoid inhalation of product spray through use of engineering controls. If necessary, use respirators to keep exposures to mists below 10 mg/m^3.

TLV (Sources are ACGIH 1985-6 and OSHA 29CFR1910.1000)

Acrylonitrile:	2 ppm TWA (skin) from ACGIH; 2 ppm (8 hour TWA), 10 ppm (15 minute average) from OSHA
Formaldehyde:	1 ppm TWA from ACGIH; 3 ppm (8 hour TWA), 5 ppm (ceiling), 10 ppm (30 minute average) from OSHA.

This latex contains less than 10 ppm acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29CFR1910.1045, paragraph (a)(2)(ii). Acrylonitrile has been classified by the NTP and IARC as having caused cancer in humans.

This latex may contain small amounts of free formaldehyde. Formaldehyde has been classified by the NTP and the IARC as having caused cancer in experimental animals. There is no evidence that it may cause cancer in humans. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limit of 1 ppm.

SECTION X. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Avoid Breathing vapors in top of shipping container.
Keep container closed.
Use with adequate ventilation.
Avoid contact with skin and clothing.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

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UCAR EMULSION SYSTEMS

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UNION CARBIDE

MATERIAL SAFETY DATA SHEET

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PREPARED BY	W. P. Miller	DATE	November 20, 1985
EMERGENCY CALL	1-800-UCC-HELP (1-800-822-4357)	REPLACES	F-46833A of 11/1/83

SECTION I. IDENTIFICATION

PRODUCT NAME	UCAR® Latex 154
PRODUCT STATUS	Commercial
CHEMICAL NAME OR SYNONYMS	Acrylic Latex
CAS NAME AND NUMBER	Not available (mixture)
DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION AND SHIPPING NAME	None

SECTION II: INGREDIENTS

INGREDIENT	APPROX. WT. %	TLV
Polymer plus Proprietary Additives	60	None Established
Water	40	---
Formaldehyde	0.1	See Section IX
Acrylonitrile	<.001	See Section IX

SECTION III: PHYSICAL DATA

APPEARANCE AND ODOR	White milky fluid, mild odor
APPROX. FREEZING PT; BOILING PT & VAPOR PRESSURE	Same as Water
SOLUBILITY IN WATER	Dilutable
SPECIFIC GRAVITY....(Water = 1)	1 to 1.2
PERCENT VOLATILE	~40 Wt. % (Water)
pH	~4
VAPOR DENSITY.....(Air = 1)	<1 (Heavier)
EVAPORATION RATE....(Butyl Acetate = 1)	<1 (Slower)

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SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, AUTOIGNITION TEMPERATURE, UPPER AND LOWER EXPLOSIVE LIMITS (%)
Not determined (aqueous system).

EXTINGUISHING MEDIA
Non-flammable (aqueous emulsion). After water evaporates, remaining material will burn. Use alcohol type or all-purpose foam for large fires. Use CO_2 or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES
Breathing apparatus when fighting fires in enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Product will not burn but may spatter if temperature exceeds boiling point of water. Dried solids can burn, giving off oxides of carbon and nitrogen.

SECTION V: REACTIVITY DATA

This product is stable and hazardous polymerization will not occur. No "condition to avoid" and "materials to avoid" are known to UCAR Emulsion Systems.

SECTION VI: HEALTH HAZARD DATA

A. EXPOSURE LIMITS
OSHA Permissible Exposure Limit (PEL) and Threshhold Limit Value (ACGIH): Not Established

B. EFFECTS OF ACUTE OVEREXPOSURE

SWALLOWING AND SKIN ABSORPTION
No evidence of adverse effects from available information.

INHALATION
Trace component and residual monomer vapors may be irritating to eyes, skin, mucous membranes, respiratory tract, and may produce symptoms of headache, nausea in poorly ventilated areas.

SKIN CONTACT
Prolonged contact may cause transient reddening of the skin.

EYE CONTACT
Direct contact may cause eye irritation.

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SECTION VI: HEALTH HAZARD DATA (continued)

C. EFFECTS OF REPEATED OVEREXPOSURE, AND OTHER HEALTH HAZARDS

No evidence of adverse effects from available information.

D. EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING

No harmful effects expected.

INHALATION

No emergency care anticipated.

EYES & SKIN

Immediately flush eyes with water until water is no longer cloudy; wash skin with soap and water until water is not cloudy. If clothing is soaked, remove and wash before reuse.

NOTES TO PHYSICIAN

Toxicology studies of similar material have shown the material to be of very low acute toxicity. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

SECTION VII: SPILL OR LEAK PROCEDURE

A. STEPS TO TAKE IN CASE OF SPILL OR LEAK

Restrict area to only those personnel needed. Major spills should be collected for disposal. Minor spills may be flushed to sewer if permitted by state, federal and local regulations.

B. WASTE DISPOSAL METHODS

Incinerate or bury in suitable landfill where permitted by appropriate government regulations.

SECTION VIII: SPECIAL PROTECTION INFORMATION

A. RESPIRATORY PROTECTION

None should be required. Use MSHA/NIOSH-approved respirator in poorly ventilated areas.

B. VENTILATION

General (mechanical) room ventilation is expected to be satisfactory. Use local exhaust if needed to control mist or vapor.

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SECTION VIII: SPECIAL PROTECTION INFORMATION (continued)

C. EYE PROTECTION
Safety glasses and available eye bath.

D. PROTECTIVE GLOVES
Use gloves impervious to water and soap.

SECTION IX. TOXICITY INFORMATION

Avoid inhalation of product spray through use of engineering controls. If necessary, use respirators to keep exposures to mists below 10 mg/m^3.

TLV (Sources are ACGIH 1985-6 and OSHA 29CFR 1910.1000)

Formaldehyde:	1 ppm TWA from ACGIH; 3 ppm (8 hour TWA), 5 ppm (ceiling), 10 ppm (30 minute average) from OSHA.
Acrylonitrile:	2 ppm TWA (skin) from ACGIH; 2 ppm (8 hour TWA), 10 ppm (15 minute average) from OSHA

This latex may contain small amounts of free formaldehyde. Formaldehyde has been classified by the NTP and the IARC as having caused cancer in experimental animals. There is no evidence that it may cause cancer in humans. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limit of 1 ppm.

This latex contains less than 10 ppm acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29 CFR 1910.1045, paragraph (a)(2)(ii). Acrylonitrile has been classified by the NTP and IARC as having caused cancer in humans.

SECTION X. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Avoid Breathing vapors in top of shipping container.
Keep container closed.
Use with adequate ventilation.
Avoid contact with skin and clothing.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

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UCAR EMULSION SYSTEMS

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MATERIAL SAFETY DATA SHEET

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PREPARED BY	W. P. Miller	DATE	November 20, 1985
EMERGENCY CALL	1-800-UCC-HELP (1-800-822-4357)	REPLACES	F-45514A of 11/1/83

SECTION I. IDENTIFICATION

PRODUCT NAME	UCAR® Latex 153
PRODUCT STATUS	Commercial
CHEMICAL NAME OR SYNONYMS	Acrylic Latex
CAS NAME AND NUMBER	Not available (mixture)
DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION AND SHIPPING NAME	None

SECTION II: INGREDIENTS

INGREDIENT	APPROX. WT. %	TLV
Polymer plus Proprietary Additives	55	None Established
Water	45	---
Formaldehyde	0.1	See Section IX
Acrylonitrile	<0.001	See Section IX

SECTION III: PHYSICAL DATA

APPEARANCE AND ODOR	White milky fluid, mild odor
APPROX. FREEZING PT; BOILING PT & VAPOR PRESSURE	Same as Water
SOLUBILITY IN WATER	Dilutable
SPECIFIC GRAVITY....(Water = 1)	1 to 1.2
PERCENT VOLATILE	~45 Wt. % (Water)
pH	~6
VAPOR DENSITY.....(Air = 1)	<1 (Heavier)
EVAPORATION RATE....(Butyl Acetate = 1)	<1 (Slower)

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SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, AUTOIGNITION TEMPERATURE, UPPER AND LOWER EXPLOSIVE LIMITS (%)
Not determined (aqueous system).

EXTINGUISHING MEDIA
Non-flammable (aqueous emulsion). After water evaporates, remaining material will burn. Use alcohol type or all-purpose foam for large fires. Use CO_2 or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES
Breathing apparatus when fighting fires in enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Product will not burn but may spatter if temperature exceeds boiling point of water. Dried solids can burn, giving off oxides of carbon and nitrogen.

SECTION V: REACTIVITY DATA

This product is stable and hazardous polymerization will not occur. No "condition to avoid" and "materials to avoid" are known to UCAR Emulsion Systems.

SECTION VI: HEALTH HAZARD DATA

A. EXPOSURE LIMITS
OSHA Permissible Exposure Limit (PEL) and Threshhold Limit Value (ACGIH): Not Established

B. EFFECTS OF ACUTE OVEREXPOSURE

SWALLOWING AND SKIN ABSORPTION
No evidence of adverse effects from available information.

INHALATION
Trace component and residual monomer vapors may be irritating to eyes, skin, mucous membranes, respiratory tract, and may produce symptoms of headache, nausea in poorly ventilated areas.

SKIN CONTACT
Prolonged contact may cause transient reddening of the skin.

EYE CONTACT
Direct contact may cause eye irritation.

SECTION VI: HEALTH HAZARD DATA (continued)

C. EFFECTS OF REPEATED OVEREXPOSURE, AND OTHER HEALTH HAZARDS

No evidence of adverse effects from available information.

D. EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING

No harmful effects expected.

INHALATION

No emergency care anticipated.

EYES & SKIN

Immediately flush eyes with water until water is no longer cloudy; wash skin with soap and water until water is not cloudy. If clothing is soaked, remove and wash before reuse.

NOTES TO PHYSICIAN

Toxicology studies of similar material have shown the material to be of very low acute toxicity. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

SECTION VII: SPILL OR LEAK PROCEDURE

A. STEPS TO TAKE IN CASE OF SPILL OR LEAK

Restrict area to only those personnel needed. Major spills should be collected for disposal. Minor spills may be flushed to sewer if permitted by state, federal and local regulations.

B. WASTE DISPOSAL METHODS

Incinerate or bury in suitable landfill where permitted by appropriate government regulations.

SECTION VIII: SPECIAL PROTECTION INFORMATION

A. RESPIRATORY PROTECTION

None should be required. Use MSHA/NIOSH-approved respirator in poorly ventilated areas.

B. VENTILATION

General (mechanical) room ventilation is expected to be satisfactory. Use local exhaust if needed to control mist or vapor.

SECTION VIII: SPECIAL PROTECTION INFORMATION (continued)

C. EYE PROTECTION
Safety glasses and available eye bath.

D. PROTECTIVE GLOVES
Use gloves impervious to water and soap.

SECTION IX. TOXICITY INFORMATION

Avoid inhalation of product spray through use of engineering controls. If necessary, use respirators to keep exposures to mists below 10 mg/m^3.

TLV (Sources are ACGIH 1985-6 and OSHA 29CFR 1910.1000)

Formaldehyde:	1 ppm TWA from ACGIH; 3 ppm (8 hour TWA), 5 ppm (ceiling), 10 ppm (30 minute average) from OSHA.
Acrylonitrile:	2 ppm TWA (skin) from ACGIH; 2 ppm (8 hour TWA), 10 ppm (15 minute average) from OSHA

This latex may contain small amounts of free formaldehyde. Formaldehyde has been classified by the NTP and the IARC as having caused cancer in experimental animals. There is no evidence that it may cause cancer in humans. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limit of 1 ppm.

This latex contains less than 10 ppm acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29 CFR 1910.1045, paragraph (a)(2)(ii). Acrylonitrile has been classified by the NTP and IARC as having caused cancer in humans.

SECTION X. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Avoid Breathing vapors in top of shipping container.
Keep container closed.
Use with adequate ventilation.
Avoid contact with skin and clothing.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

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MATERIAL SAFETY DATA SHEET

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PREPARED BY	W. P. Miller	DATE	June 17, 1987
EMERGENCY CALL	1-800-UCC-HELP (1-800-822-4357)	REPLACES	February 1, 1985

SECTION I. IDENTIFICATION

PRODUCT NAME	UCAR® Latex 828
CHEMICAL NAME OR SYNONYMS	Vinyl Acrylic Latex
CAS NAME AND NUMBER	Not available (mixture)
DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION AND SHIPPING NAME	None

SECTION II: INGREDIENTS

INGREDIENT	APPROX. WT. %	TLV
Polymer plus Proprietary Additives	45	None Established
Water	55	---
Formaldehyde	0.2	See Section IX
Vinyl Acetate	0.08	See Section IX

SECTION III: PHYSICAL DATA

APPEARANCE AND ODOR	White milky fluid, mild odor
APPROX. FREEZING PT; BOILING PT & VAPOR PRESSURE	Same as Water
SOLUBILITY IN WATER	Dilutable
SPECIFIC GRAVITY....(Water = 1)	1 to 1.2
PERCENT VOLATILE	~55 Wt. % (Water)
pH	~ 4
VAPOR DENSITY.....(Air = 1)	<1 (Lighter)
EVAPORATION RATE....(Butyl Acetate = 1)	<1 (Slower)

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SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, AUTOIGNITION TEMPERATURE, UPPER AND LOWER EXPLOSIVE LIMITS (%)
Not determined (aqueous system).

EXTINGUISHING MEDIA
Non-flammable (aqueous emulsion). After water evaporates, remaining material will burn. Use alcohol type or all-purpose foam for large fires. Use CO_2 or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES
Breathing apparatus when fighting fires in enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Product will not burn but may spatter if temperature exceeds boiling point of water. Dried solids can burn, giving off oxides of carbon and nitrogen.

SECTION V: REACTIVITY DATA

This product is stable and hazardous polymerization will not occur. No "condition to avoid" and "materials to avoid" are known to UCAR Emulsion Systems.

SECTION VI: HEALTH HAZARD DATA

A. EXPOSURE LIMITS
OSHA Permissible Exposure Limit (PEL) and Threshhold Limit Value (ACGIH): Not Established

B. EFFECTS OF ACUTE OVEREXPOSURE

SWALLOWING AND SKIN ABSORPTION
No evidence of adverse effects from available information.

INHALATION
Trace component and residual monomer vapors may be irritating to eyes, skin, mucous membranes, respiratory tract, and may produce symptoms of headache, nausea in poorly ventilated areas.

SKIN CONTACT
Prolonged contact may cause transient reddening of the skin.

EYE CONTACT
Direct contact may cause eye irritation.

SECTION VI: HEALTH HAZARD DATA (continued)

C. EFFECTS OF REPEATED OVEREXPOSURE, AND MEDICAL CONDITIONS AGGRAVATED
No evidence of adverse effects from available information.

D. EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING
No harmful effects expected.

INHALATION
No emergency care anticipated.

EYES & SKIN
Immediately flush eyes with water until water is no longer cloudy; wash skin with soap and water until water is not cloudy. If clothing is soaked, remove and wash before reuse.

NOTES TO PHYSICIAN
Toxicology studies of similar material have shown the material to be of very low acute toxicity. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

SECTION VII: SPILL OR LEAK PROCEDURE

A. STEPS TO TAKE IN CASE OF SPILL OR LEAK
Restrict area to only those personnel needed. Major spills should be collected for disposal. Minor spills may be flushed to sewer if permitted by state, federal and local regulations.

B. WASTE DISPOSAL METHODS
Incinerate or bury in suitable landfill where permitted by appropriate government regulations.

SECTION VIII: SPECIAL PROTECTION INFORMATION

A. RESPIRATORY PROTECTION
None should be required. Use MSHA/NIOSH-approved respirator in poorly ventilated areas.

B. VENTILATION
General (mechanical) room ventilation is expected to be satisfactory. Use local exhaust if needed to control mist or vapor.

C. EYE PROTECTION
Safety glasses and available eye bath.

D. PROTECTIVE GLOVES
Use gloves impervious to water and soap.

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SECTION IX. TOXICITY INFORMATION

Avoid inhalation of product spray through use of engineering controls. If necessary, use respirators to keep exposures to mists below 10 mg/m^3.

This latex contains trace amounts of free formaldehyde. Formaldehyde has been classified by the NTP and IARC as having caused cancer in experimental animals. There is no evidence that formaldehyde causes cancer in humans. Because of the low formaldehyde concentration, there should be minimal risk when used with adequate ventilation.

TLV (Sources are ACGIH 1986-7 and OSHA 29CFR 1910.1000)

Formaldehyde:	1 ppm TWA from ACGIH; 3 ppm (8 hour TWA), 5 ppm (ceiling), 10 ppm (30 minute average) from OSHA.
Vinyl Acetate:	10 ppm TWA ACGIH.

This latex may contain small amounts (0.1-0.5%) of free formaldehyde, which has been shown to cause cancer in laboratory animals but for which there is no evidence that it may cause cancer in humans. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limit.

This product may contain small amounts of vinyl acetate, vapors of which have been shown to cause tumors of the respiratory tract of laboratory animals. There is no evidence that it has caused cancer in humans. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of vinyl acetate below the recommended exposure limit.

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SECTION X. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Avoid Breathing vapors in top of shipping container.
Keep container closed.
Use with adequate ventilation.
Avoid contact with skin and clothing.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

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UCAR EMULSION SYSTEMS

UNION CARBIDE CORPORATION • 410 GREGSON DRIVE, CARY, N.C. 27511 (919) 469-6700

UNION CARBIDE

MATERIAL SAFETY DATA SHEET

UCAR Emulsion Systems urges the customer receiving this Material Safety Data Sheet to study it carefully to become aware of hazards, if any, of the product involved. In the interest of safety you should: (1) notify your employees, agents, and contractors of the information on this sheet, (2) furnish a copy to each of your customers for the product, and (3) request your customers to inform their employees and customers as well.

PREPARED BY	W. P. Miller	DATE	July 22, 1987
EMERGENCY CALL	1-800-UCC-HELP (1-800-822-4357)	REPLACES	F-45515C 10/1/83

SECTION I. IDENTIFICATION

PRODUCT NAME	UCAR® Latex 874
CHEMICAL NAME OR SYNONYMS	Acrylic Latex
CAS NAME AND NUMBER	Not available (mixture)
DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION AND SHIPPING NAME	None

SECTION II: INGREDIENTS

INGREDIENT	APPROX. WT. %	TLV
Polymer plus Proprietary Additives	60	None Established
Water	40	---
Formaldehyde	0.07	See Section IX
Acrylonitrile	<.001	See Section IX

SECTION III: PHYSICAL DATA

APPEARANCE AND ODOR	White milky fluid, mild odor
APPROX. FREEZING PT; BOILING PT & VAPOR PRESSURE	Same as Water
SOLUBILITY IN WATER	Dilutable
SPECIFIC GRAVITY....(Water = 1)	1 to 1.2
PERCENT VOLATILE	~40 Wt. % (Water)
pH	~ 4
VAPOR DENSITY.....(Air = 1)	<1 (Lighter)
EVAPORATION RATE....(Butyl Acetate = 1)	<1 (Slower)

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SECTION VI: HEALTH HAZARD DATA (continued)

C. EFFECTS OF REPEATED OVEREXPOSURE, AND MEDICAL CONDITIONS AGGRAVATED

No evidence of adverse effects from available information.

D. EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING

No harmful effects expected.

INHALATION

No emergency care anticipated.

EYES & SKIN

Immediately flush eyes with water until water is no longer cloudy; wash skin with soap and water until water is not cloudy. If clothing is soaked, remove and wash before reuse.

NOTES TO PHYSICIAN

Toxicology studies of similar material have shown the material to be of very low acute toxicity. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

SECTION VII: SPILL OR LEAK PROCEDURE

A. STEPS TO TAKE IN CASE OF SPILL OR LEAK

Restrict area to only those personnel needed. Major spills should be collected for disposal. Minor spills may be flushed to sewer if permitted by state, federal and local regulations.

B. WASTE DISPOSAL METHODS

Incinerate or bury in suitable landfill where permitted by appropriate government regulations.

SECTION VIII: SPECIAL PROTECTION INFORMATION

A. RESPIRATORY PROTECTION

None should be required. Use MSHA/NIOSH-approved respirator in poorly ventilated areas.

B. VENTILATION

General (mechanical) room ventilation is expected to be satisfactory. Use local exhaust if needed to control mist or vapor.

C. EYE PROTECTION

Safety glasses and available eye bath.

D. PROTECTIVE GLOVES

Use gloves impervious to water and soap.

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SECTION IX. TOXICITY INFORMATION

Avoid inhalation of product spray through use of engineering controls. If necessary, use respirators to keep exposures to mists below 10 mg/m^3.

TLV (Sources are ACGIH 1986-7 and OSHA 29CFR 1910.1000)

Formaldehyde:	1 ppm TWA from ACGIH; 3 ppm (8 hour TWA), 5 ppm (ceiling), 10 ppm (30 minute average) from OSHA.
Acrylonitrile:	2 ppm TWA (skin) from ACGIH; 2 ppm (8 hour TWA), 10 ppm (15 minute average) from OSHA

This latex contains trace amounts of free formaldehyde. Formaldehyde has been classified by the NTP and IARC as having caused cancer in experimental animals. There is no evidence that formaldehyde causes cancer in humans. Because of the low formaldehyde concentration, there should be minimal risk when used with adequate ventilation.

This latex contains less than 10 ppm acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29 CFR 1910.1045, paragraph (a)(2)(ii). Acrylonitrile has been classified by the NTP and IARC as having caused cancer in humans.

SECTION X. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Avoid Breathing vapors in top of shipping container.
Keep container closed.
Use with adequate ventilation.
Avoid contact with skin and clothing.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

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UCAR EMULSION SYSTEMS

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UNION CARBIDE

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PREPARED BY	W. P. Miller	DATE	August 17, 1987
EMERGENCY CALL	1-800-UCC-HELP (1-800-822-4357)	REPLACES	Revised of 11/8/85

SECTION I. IDENTIFICATION

PRODUCT NAME	UCAR® Vehicle 455 (Formerly 4550)
CHEMICAL NAME OR SYNONYMS	Styrene Acrylic Latex
CAS NAME AND NUMBER	Not available (mixture)
DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION AND SHIPPING NAME	None

SECTION II: INGREDIENTS

INGREDIENT	APPROX. WT. %	TLV
Polymer plus Proprietary Additives	45	None Established
Water	55	---
Formaldehyde	0.09	See Section IX
Acrylonitrile	<0.001	See Section IX

SECTION III: PHYSICAL DATA

APPEARANCE AND ODOR	White milky fluid, mild odor
APPROX. FREEZING PT; BOILING PT & VAPOR PRESSURE	Same as Water
SOLUBILITY IN WATER	Dilutable
SPECIFIC GRAVITY....(Water = 1)	1 to 1.2
PERCENT VOLATILE	~ 55 Wt. % (Water)
pH	~ 4
VAPOR DENSITY.....(Air = 1)	<1 (Lighter)
EVAPORATION RATE....(Butyl Acetate = 1)	<1 (Slower)

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SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, AUTOIGNITION TEMPERATURE, UPPER AND LOWER EXPLOSIVE LIMITS (%)
Not determined (aqueous system).

EXTINGUISHING MEDIA
Non-flammable (aqueous emulsion). After water evaporates, remaining material will burn. Use alcohol type or all-purpose foam for large fires. Use CO_2 or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES
Breathing apparatus when fighting fires in enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Product will not burn but may spatter if temperature exceeds boiling point of water. Dried solids can burn, giving off oxides of carbon.

SECTION V: REACTIVITY DATA

This product is stable and hazardous polymerization will not occur. No "condition to avoid" and "materials to avoid" are known to UCAR Emulsion Systems.

SECTION VI: HEALTH HAZARD DATA

A. EXPOSURE LIMITS
OSHA Permissible Exposure Limit (PEL) and Threshhold Limit Value (ACGIH): Not Established

B. EFFECTS OF ACUTE OVEREXPOSURE

SWALLOWING AND SKIN ABSORPTION
No evidence of adverse effects from available information.

INHALATION
Trace component and residual monomer vapors may be irritating to eyes, skin, mucous membranes, respiratory tract, and may produce symptoms of headache, nausea in poorly ventilated areas.

SKIN CONTACT
Prolonged contact may cause transient reddening of the skin.

EYE CONTACT
Direct contact may cause eye irritation.

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SECTION VI: HEALTH HAZARD DATA (continued)

C. EFFECTS OF REPEATED OVEREXPOSURE, AND MEDICAL CONDITIONS AGGRAVATED

No evidence of adverse effects from available information.

D. EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING

No harmful effects expected.

INHALATION

No emergency care anticipated.

EYES & SKIN

Immediately flush eyes with water until water is no longer cloudy; wash skin with soap and water until water is not cloudy. If clothing is soaked, remove and wash before reuse.

NOTES TO PHYSICIAN

Toxicology studies of similar material have shown the material to be of very low acute toxicity. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

SECTION VII: SPILL OR LEAK PROCEDURE

A. STEPS TO TAKE IN CASE OF SPILL OR LEAK

Restrict area to only those personnel needed. Major spills should be collected for disposal. Minor spills may be flushed to sewer if permitted by state, federal and local regulations.

B. WASTE DISPOSAL METHODS

Incinerate or bury in suitable landfill where permitted by appropriate government regulations.

SECTION VIII: SPECIAL PROTECTION INFORMATION

A. RESPIRATORY PROTECTION

None should be required. Use MSHA/NIOSH-approved respirator in poorly ventilated areas.

B. VENTILATION

General (mechanical) room ventilation is expected to be satisfactory. Use local exhaust if needed to control mist or vapor.

C. EYE PROTECTION

Safety glasses and available eye bath.

D. PROTECTIVE GLOVES

Use gloves impervious to water and soap.

SECTION IX. TOXICITY INFORMATION

Avoid inhalation of product spray through use of engineering controls. If necessary, use respirators to keep exposures to mists below 10 mg/m^3.

TLV (Sources are ACGIH 1986-7 and OSHA 29CFR 1910.1000)

Formaldehyde:	1 ppm TWA from ACGIH; 3 ppm (8 hour TWA), 5 ppm (ceiling), 10 ppm (30 minute average) from OSHA.
Acrylonitrile:	2 ppm TWA (skin) from ACGIH; 2 ppm (8 hour TWA), 10 ppm (15 minute average) from OSHA

This latex may contain small amounts (0.1-0.5%) of free formaldehyde, which has been shown to cause cancer in laboratory animals but for which there is no evidence that it may cause cancer in humans. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limit.

This latex contains less than 10 ppm acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29 CFR 1910.1045, paragraph (a)(2)(ii). Acrylonitrile has been classified by the NTP and IARC as having caused cancer in humans.

SECTION X. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Avoid Breathing vapors in top of shipping container.
Keep container closed.
Use with adequate ventilation.
Avoid contact with skin and clothing.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

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UCAR EMULSION SYSTEMS

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MATERIAL SAFETY DATA SHEET

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PREPARED BY	W. P. Miller	DATE	August 17, 1987
EMERGENCY CALL	1-800-UCC-HELP (1-800-822-4357)	REPLACES	Revised of 11/8/85

SECTION I. IDENTIFICATION

PRODUCT NAME	UCAR® Latex 879
CHEMICAL NAME OR SYNONYMS	Styrene Acrylic Latex
CAS NAME AND NUMBER	Not available (mixture)
DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION AND SHIPPING NAME	None

SECTION II: INGREDIENTS

INGREDIENT	APPROX. WT. %	TLV
Polymer plus Proprietary Additives	45	None Established
Water	55	---
Formaldehyde	0.09	See Section IX
Acrylonitrile	<0.001	See Section IX

SECTION III: PHYSICAL DATA

APPEARANCE AND ODOR	White milky fluid, mild odor
APPROX. FREEZING PT; BOILING PT & VAPOR PRESSURE	Same as Water
SOLUBILITY IN WATER	Dilutable
SPECIFIC GRAVITY....(Water = 1)	1 to 1.2
PERCENT VOLATILE	~ 55 Wt. % (Water)
pH	~ 4
VAPOR DENSITY.....(Air = 1)	<1 (Lighter)
EVAPORATION RATE....(Butyl Acetate = 1)	<1 (Slower)

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SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, AUTOIGNITION TEMPERATURE, UPPER AND LOWER EXPLOSIVE LIMITS (%)
Not determined (aqueous system).

EXTINGUISHING MEDIA
Non-flammable (aqueous emulsion). After water evaporates, remaining material will burn. Use alcohol type or all-purpose foam for large fires. Use CO_2 or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES
Breathing apparatus when fighting fires in enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Product will not burn but may spatter if temperature exceeds boiling point of water. Dried solids can burn, giving off oxides of carbon.

SECTION V: REACTIVITY DATA

This product is stable and hazardous polymerization will not occur. No "condition to avoid" and "materials to avoid" are known to UCAR Emulsion Systems.

SECTION VI: HEALTH HAZARD DATA

A. EXPOSURE LIMITS
OSHA Permissible Exposure Limit (PEL) and Threshhold Limit Value (ACGIH): Not Established

B. EFFECTS OF ACUTE OVEREXPOSURE

SWALLOWING AND SKIN ABSORPTION
No evidence of adverse effects from available information.

INHALATION
Trace component and residual monomer vapors may be irritating to eyes, skin, mucous membranes, respiratory tract, and may produce symptoms of headache, nausea in poorly ventilated areas.

SKIN CONTACT
Prolonged contact may cause transient reddening of the skin.

EYE CONTACT
Direct contact may cause eye irritation.

SECTION VI: HEALTH HAZARD DATA (continued)

C. EFFECTS OF REPEATED OVEREXPOSURE, AND MEDICAL CONDITIONS AGGRAVATED

No evidence of adverse effects from available information.

D. EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING

No harmful effects expected.

INHALATION

No emergency care anticipated.

EYES & SKIN

Immediately flush eyes with water until water is no longer cloudy; wash skin with soap and water until water is not cloudy. If clothing is soaked, remove and wash before reuse.

NOTES TO PHYSICIAN

Toxicology studies of similar material have shown the material to be of very low acute toxicity. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

SECTION VII: SPILL OR LEAK PROCEDURE

A. STEPS TO TAKE IN CASE OF SPILL OR LEAK

Restrict area to only those personnel needed. Major spills should be collected for disposal. Minor spills may be flushed to sewer if permitted by state, federal and local regulations.

B. WASTE DISPOSAL METHODS

Incinerate or bury in suitable landfill where permitted by appropriate government regulations.

SECTION VIII: SPECIAL PROTECTION INFORMATION

A. RESPIRATORY PROTECTION

None should be required. Use MSHA/NIOSH-approved respirator in poorly ventilated areas.

B. VENTILATION

General (mechanical) room ventilation is expected to be satisfactory. Use local exhaust if needed to control mist or vapor.

C. EYE PROTECTION

Safety glasses and available eye bath.

D. PROTECTIVE GLOVES

Use gloves impervious to water and soap.

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SECTION IX. TOXICITY INFORMATION

Avoid inhalation of product spray through use of engineering controls. If necessary, use respirators to keep exposures to mists below 10 mg/m^3.

TLV (Sources are ACGIH 1986-7 and OSHA 29CFR 1910.1000)

Formaldehyde:	1 ppm TWA from ACGIH; 3 ppm (8 hour TWA), 5 ppm (ceiling), 10 ppm (30 minute average) from OSHA.
Acrylonitrile:	2 ppm TWA (skin) from ACGIH; 2 ppm (8 hour TWA), 10 ppm (15 minute average) from OSHA

This latex may contain small amounts (0.1-0.5%) of free formaldehyde, which has been shown to cause cancer in laboratory animals but for which there is no evidence that it may cause cancer in humans. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limit.

This latex contains less than 10 ppm acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29 CFR 1910.1045, paragraph (a)(2)(ii). Acrylonitrile has been classified by the NTP and IARC as having caused cancer in humans.

SECTION X. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Avoid Breathing vapors in top of shipping container.
Keep container closed.
Use with adequate ventilation.
Avoid contact with skin and clothing.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

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PREPARED BY	W. P. Miller	DATE	August 18, 1987
EMERGENCY CALL	1-800-UCC-HELP (1-800-822-4357)	REPLACES	Revised of 11/8/85

SECTION I. IDENTIFICATION

PRODUCT NAME	UCAR® Latex 3148 (formerly BX-3148
CHEMICAL NAME OR SYNONYMS	Styrene Acrylic Latex
CAS NAME AND NUMBER	Not available (mixture)
DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION AND SHIPPING NAME	None

SECTION II: INGREDIENTS

INGREDIENT	APPROX. WT. %	TLV
Polymer plus Proprietary Additives	45	None Established
Water	55	---
Formaldehyde	0.09	See Section IX
Acrylonitrile	<0.001	See Section IX

SECTION III: PHYSICAL DATA

APPEARANCE AND ODOR	White milky fluid, mild odor
APPROX. FREEZING PT; BOILING PT & VAPOR PRESSURE	Same as Water
SOLUBILITY IN WATER	Dilutable
SPECIFIC GRAVITY....(Water = 1)	1 to 1.2
PERCENT VOLATILE	~ 55 Wt. % (Water)
pH	~ 4
VAPOR DENSITY.....(Air = 1)	<1 (Lighter)
EVAPORATION RATE....(Butyl Acetate = 1)	<1 (Slower)

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SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, AUTOIGNITION TEMPERATURE, UPPER AND LOWER EXPLOSIVE LIMITS (%)
Not determined (aqueous system).

EXTINGUISHING MEDIA
Non-flammable (aqueous emulsion). After water evaporates, remaining material will burn. Use alcohol type or all-purpose foam for large fires. Use CO_2 or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES
Breathing apparatus when fighting fires in enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Product will not burn but may spatter if temperature exceeds boiling point of water. Dried solids can burn, giving off oxides of carbon and nitrogen.

SECTION V: REACTIVITY DATA

This product is stable and hazardous polymerization will not occur. No "condition to avoid" and "materials to avoid" are known to UCAR Emulsion Systems.

SECTION VI: HEALTH HAZARD DATA

A. EXPOSURE LIMITS
OSHA Permissible Exposure Limit (PEL) and Threshhold Limit Value (ACGIH): Not Established

B. EFFECTS OF ACUTE OVEREXPOSURE

SWALLOWING AND SKIN ABSORPTION
No evidence of adverse effects from available information.

INHALATION
Trace component and residual monomer vapors may be irritating to eyes, skin, mucous membranes, respiratory tract, and may produce symptoms of headache, nausea in poorly ventilated areas.

SKIN CONTACT
Prolonged contact may cause transient reddening of the skin.

EYE CONTACT
Direct contact may cause eye irritation.

SECTION VI: HEALTH HAZARD DATA (continued)

C. EFFECTS OF REPEATED OVEREXPOSURE, AND MEDICAL CONDITIONS AGGRAVATED

No evidence of adverse effects from available information.

D. EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING

No harmful effects expected.

INHALATION

No emergency care anticipated.

EYES & SKIN

Immediately flush eyes with water until water is no longer cloudy; wash skin with soap and water until water is not cloudy. If clothing is soaked, remove and wash before reuse.

NOTES TO PHYSICIAN

Toxicology studies of similar material have shown the material to be of very low acute toxicity. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

SECTION VII: SPILL OR LEAK PROCEDURE

A. STEPS TO TAKE IN CASE OF SPILL OR LEAK

Restrict area to only those personnel needed. Major spills should be collected for disposal. Minor spills may be flushed to sewer if permitted by state, federal and local regulations.

B. WASTE DISPOSAL METHODS

Incinerate or bury in suitable landfill where permitted by appropriate government regulations.

SECTION VIII: SPECIAL PROTECTION INFORMATION

A. RESPIRATORY PROTECTION

None should be required. Use MSHA/NIOSH-approved respirator in poorly ventilated areas.

B. VENTILATION

General (mechanical) room ventilation is expected to be satisfactory. Use local exhaust if needed to control mist or vapor.

C. EYE PROTECTION

Safety glasses and available eye bath.

D. PROTECTIVE GLOVES

Use gloves impervious to water and soap.

SECTION IX. TOXICITY INFORMATION

Avoid inhalation of product spray through use of engineering controls. If necessary, use respirators to keep exposures to mists below 10 mg/m^3.

TLV (Sources are ACGIH 1986-7 and OSHA 29CFR 1910.1000)

Formaldehyde:	1 ppm TWA from ACGIH; 3 ppm (8 hour TWA), 5 ppm (ceiling), 10 ppm (30 minute average) from OSHA.
Acrylonitrile:	2 ppm TWA (skin) from ACGIH; 2 ppm (8 hour TWA), 10 ppm (15 minute average) from OSHA

This latex may contain small amounts (0.1-0.5%) of free formaldehyde, which has been shown to cause cancer in laboratory animals but for which there is no evidence that it may cause cancer in humans. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limit.

This latex contains less than 10 ppm acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29 CFR 1910.1045, paragraph (a)(2)(ii). Acrylonitrile has been classified by the NTP and IARC as having caused cancer in humans.

SECTION X. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Avoid Breathing vapors in top of shipping container.
Keep container closed.
Use with adequate ventilation.
Avoid contact with skin and clothing.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

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PREPARED BY	W. P. Miller	DATE	August 18, 1987
EMERGENCY CALL	1-800-UCC-HELP (1-800-822-4357)	REPLACES	Revised of 11/19/85

SECTION I. IDENTIFICATION

PRODUCT NAME	UCAR® Latex 163
CHEMICAL NAME OR SYNONYMS	Acrylic Latex
CAS NAME AND NUMBER	Not available (mixture)
DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION AND SHIPPING NAME	None

SECTION II: INGREDIENTS

INGREDIENT	APPROX. WT. %	TLV
Polymer plus Proprietary Additives	58	None Established
Water	42	---
Formaldehyde	0.09	See Section IX
Acrylonitrile	<0.001	See Section IX
2-Ethylhexyl Acrylate	<0.01	See Section IX

SECTION III: PHYSICAL DATA

APPEARANCE AND ODOR	White milky fluid, mild odor
APPROX. FREEZING PT; BOILING PT & VAPOR PRESSURE	Same as Water
SOLUBILITY IN WATER	Dilutable
SPECIFIC GRAVITY....(Water = 1)	1 to 1.2
PERCENT VOLATILE	~ 42 Wt. % (Water)
pH	~ 4
VAPOR DENSITY.....(Air = 1)	<1 (Lighter)
EVAPORATION RATE....(Butyl Acetate = 1)	<1 (Slower)

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SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, AUTOIGNITION TEMPERATURE, UPPER AND LOWER EXPLOSIVE LIMITS (%)
Not determined (aqueous system).

EXTINGUISHING MEDIA
Non-flammable (aqueous emulsion). After water evaporates, remaining material will burn. Use alcohol type or all-purpose foam for large fires. Use CO_2 or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES
Breathing apparatus when fighting fires in enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Product will not burn but may spatter if temperature exceeds boiling point of water. Dried solids can burn, giving off oxides of carbon and nitrogen.

SECTION V: REACTIVITY DATA

This product is stable and hazardous polymerization will not occur. No "condition to avoid" and "materials to avoid" are known to UCAR Emulsion Systems.

SECTION VI: HEALTH HAZARD DATA

A. EXPOSURE LIMITS
OSHA Permissible Exposure Limit (PEL) and Threshhold Limit Value (ACGIH): Not Established

B. EFFECTS OF ACUTE OVEREXPOSURE

SWALLOWING AND SKIN ABSORPTION
No evidence of adverse effects from available information.

INHALATION
Trace component and residual monomer vapors may be irritating to eyes, skin, mucous membranes, respiratory tract, and may produce symptoms of headache, nausea in poorly ventilated areas.

SKIN CONTACT
Prolonged contact may cause transient reddening of the skin.

EYE CONTACT
Direct contact may cause eye irritation.

SECTION VI: HEALTH HAZARD DATA (continued)

C. EFFECTS OF REPEATED OVEREXPOSURE, AND MEDICAL CONDITIONS AGGRAVATED

No evidence of adverse effects from available information.

D. EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING

No harmful effects expected.

INHALATION

No emergency care anticipated.

EYES & SKIN

Immediately flush eyes with water until water is no longer cloudy; wash skin with soap and water until water is not cloudy. If clothing is soaked, remove and wash before reuse.

NOTES TO PHYSICIAN

Toxicology studies of similar material have shown the material to be of very low acute toxicity. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

SECTION VII: SPILL OR LEAK PROCEDURE

A. STEPS TO TAKE IN CASE OF SPILL OR LEAK

Restrict area to only those personnel needed. Major spills should be collected for disposal. Minor spills may be flushed to sewer if permitted by state, federal and local regulations.

B. WASTE DISPOSAL METHODS

Incinerate or bury in suitable landfill where permitted by appropriate government regulations.

SECTION VIII: SPECIAL PROTECTION INFORMATION

A. RESPIRATORY PROTECTION

None should be required. Use MSHA/NIOSH-approved respirator in poorly ventilated areas.

B. VENTILATION

General (mechanical) room ventilation is expected to be satisfactory. Use local exhaust if needed to control mist or vapor.

C. EYE PROTECTION

Safety glasses and available eye bath.

D. PROTECTIVE GLOVES

Use gloves impervious to water and soap.

MSDS: Latex 163 (Date: 870818) [3072Q]

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SECTION IX. TOXICITY INFORMATION

Avoid inhalation of product spray through use of engineering controls. If necessary, use respirators to keep exposures to mists below 10 mg/m^3.

TLV (Sources are ACGIH 1986-7 and OSHA 29CFR 1910.1000)

Formaldehyde:	1 ppm TWA from ACGIH; 3 ppm (8 hour TWA), 5 ppm (ceiling), 10 ppm (30 minute average) from OSHA.
Acrylonitrile:	2 ppm TWA (skin) from ACGIH; 2 ppm (8 hour TWA), 10 ppm (15 minute average) from OSHA
2-Ethylhexyl Acrylate:	5 ppm from UCC

This latex may contain small amounts (0.1-0.5%) of free formaldehyde, which has been shown to cause cancer in laboratory animals but for which there is no evidence that it may cause cancer in humans. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limit.

This latex contains less than 10 ppm acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29 CFR 1910.1045, paragraph (a)(2)(ii). Acrylonitrile has been classified by the NTP and IARC as having caused cancer in humans.

2-Ethylhexyl acrylate (EHA), used in the manufacture of this product, has been shown to cause cancer in laboratory animals, based on chronic skin painting studies in mice. Although there is no evidence that EHA causes cancer in humans, skin contact should be avoided and the material should be handled with ventilation adequate to keep the atmospheric concentration of EHA below 5 ppm.

SECTION X. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Avoid Breathing vapors in top of shipping container.
Keep container closed.
Use with adequate ventilation.
Avoid contact with skin and clothing.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

UCAR EMULSION SYSTEMS

UNION CARBIDE CORPORATION • 410 GREGSON DRIVE, CARY, N.C. 27511 (919) 469-6700

UNION CARBIDE

MATERIAL SAFETY DATA SHEET

UCAR Emulsion Systems urges the customer receiving this Material Safety Data Sheet to study it carefully to become aware of hazards, if any, of the product involved. In the interest of safety you should: (1) notify your employees, agents, and contractors of the information on this sheet, (2) furnish a copy to each of your customers for the product, and (3) request your customers to inform their employees and customers as well.

PREPARED BY	W. P. Miller	DATE	August 18, 1987
EMERGENCY CALL	1-800-UCC-HELP (1-800-822-4357)	REPLACES	Revised of 4/7/87

SECTION I. IDENTIFICATION

PRODUCT NAME	UCAR® Latex 872
CHEMICAL NAME OR SYNONYMS	Acrylic Latex
CAS NAME AND NUMBER	Not available (mixture)
DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION AND SHIPPING NAME	None

SECTION II: INGREDIENTS

INGREDIENT	APPROX. WT. %	TLV
Polymer plus Proprietary Additives	58	None Established
Water	42	---
Formaldehyde	0.09	See Section IX
Acrylonitrile	<0.001	See Section IX
2-Ethylhexyl Acrylate	<0.01	See Section IX

SECTION III: PHYSICAL DATA

APPEARANCE AND ODOR	White milky fluid, mild odor
APPROX. FREEZING PT; BOILING PT & VAPOR PRESSURE	Same as Water
SOLUBILITY IN WATER	Dilutable
SPECIFIC GRAVITY....(Water = 1)	1 to 1.2
PERCENT VOLATILE	~ 42 Wt. % (Water)
pH	~ 4
VAPOR DENSITY.....(Air = 1)	<1 (Lighter)
EVAPORATION RATE....(Butyl Acetate = 1)	<1 (Slower)

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SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, AUTOIGNITION TEMPERATURE, UPPER AND LOWER EXPLOSIVE LIMITS (%)
Not determined (aqueous system).

EXTINGUISHING MEDIA
Non-flammable (aqueous emulsion). After water evaporates, remaining material will burn. Use alcohol type or all-purpose foam for large fires. Use CO_2 or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES
Breathing apparatus when fighting fires in enclosed areas.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Product will not burn but may spatter if temperature exceeds boiling point of water. Dried solids can burn, giving off oxides of carbon and nitrogen.

SECTION V: REACTIVITY DATA

This product is stable and hazardous polymerization will not occur. No "condition to avoid" and "materials to avoid" are known to UCAR Emulsion Systems.

SECTION VI: HEALTH HAZARD DATA

A. EXPOSURE LIMITS
OSHA Permissible Exposure Limit (PEL) and Threshhold Limit Value (ACGIH): Not Established

B. EFFECTS OF ACUTE OVEREXPOSURE

SWALLOWING AND SKIN ABSORPTION
No evidence of adverse effects from available information.

INHALATION
Trace component and residual monomer vapors may be irritating to eyes, skin, mucous membranes, respiratory tract, and may produce symptoms of headache, nausea in poorly ventilated areas.

SKIN CONTACT
Prolonged contact may cause transient reddening of the skin.

EYE CONTACT
Direct contact may cause eye irritation.

SECTION VI: HEALTH HAZARD DATA (continued)

C. EFFECTS OF REPEATED OVEREXPOSURE, AND MEDICAL CONDITIONS AGGRAVATED
No evidence of adverse effects from available information.

D. EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING
No harmful effects expected.

INHALATION
No emergency care anticipated.

EYES & SKIN
Immediately flush eyes with water until water is no longer cloudy; wash skin with soap and water until water is not cloudy. If clothing is soaked, remove and wash before reuse.

NOTES TO PHYSICIAN
Toxicology studies of similar material have shown the material to be of very low acute toxicity. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

SECTION VII: SPILL OR LEAK PROCEDURE

A. STEPS TO TAKE IN CASE OF SPILL OR LEAK
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B. VENTILATION
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C. EYE PROTECTION
Safety glasses and available eye bath.

D. PROTECTIVE GLOVES
Use gloves impervious to water and soap.

SECTION IX. TOXICITY INFORMATION

Avoid inhalation of product spray through use of engineering controls. If necessary, use respirators to keep exposures to mists below 10 mg/m^3.

TLV (Sources are ACGIH 1986-7 and OSHA 29CFR 1910.1000)

Formaldehyde:	1 ppm TWA from ACGIH; 3 ppm (8 hour TWA), 5 ppm (ceiling), 10 ppm (30 minute average) from OSHA.
Acrylonitrile:	2 ppm TWA (skin) from ACGIH; 2 ppm (8 hour TWA), 10 ppm (15 minute average) from OSHA
2-Ethylhexyl Acrylate:	5 ppm from UCC

This latex may contain small amounts (0.1-0.5%) of free formaldehyde, which has been shown to cause cancer in laboratory animals but for which there is no evidence that it may cause cancer in humans. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limit.

This latex contains less than 10 ppm acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29 CFR 1910.1045, paragraph (a)(2)(ii). Acrylonitrile has been classified by the NTP and IARC as having caused cancer in humans.

2-Ethylhexyl acrylate (EHA), used in the manufacture of this product, has been shown to cause cancer in laboratory animals, based on chronic skin painting studies in mice. Although there is no evidence that EHA causes cancer in humans, skin contact should be avoided and the material should be handled with ventilation adequate to keep the atmospheric concentration of EHA below 5 ppm.

SECTION X. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Avoid Breathing vapors in top of shipping container.
Keep container closed.
Use with adequate ventilation.
Avoid contact with skin and clothing.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

UNION CARBIDE

MATERIAL SAFETY DATA SHEET

EFFECTIVE DATE: FEBRUARY 1, 1985

Union Carbide Corporation urges the customer receiving this Material Safety Data Sheet to study it carefully to become aware of hazards, if any, of the product involved. In the interest of safety you should (1) notify your employees, agents, and contractors of the information on this sheet, (2) furnish a copy to each of your customers for the product, and (3) request your customers to inform their employees and customers as well.

I. IDENTIFICATION

PRODUCT NAME: UCAR® VEHICLE 442

CHEMICAL NAME: -- CHEMICAL FAMILY: Styrene-Acrylic Latex

DEPARTMENT OF TRANSPORTATION	Hazard Classification	None
	Shipping Name	None

CAS # -- CAS NAME Not available (mixture)

II. PHYSICAL DATA

BOILING POINT, 760 mm Hg	~100° C (212° F)	FREEZING POINT	~0° C
SPECIFIC GRAVITY (H_2O = 1)	~1.03	VAPOR PRESSURE at 20° C	~17.5 mm Hg
VAPOR DENSITY (air = 1)	<1 (water)	SOLUBILITY IN WATER, % by wt	Dilutable
PERCENT VOLATILES BY VOLUME	~55 wt % (water)	EVAPORATION RATE (Butyl Acetate = 1)	~1
APPEARANCE AND ODOR	White, milky fluid; mild odor		

III. INGREDIENTS

MATERIAL	%	TLV	HAZARD
See Page 4			

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	Not determined (aqueous system)			
FLAMMABLE LIMITS IN AIR, % by volume	LOWER	Not determined (aqueous system)	UPPER	Not determined (aqueous system)
EXTINGUISHING MEDIA	The latex will not burn until water has evaporated. For residual solids, use water spray, carbon dioxide, dry chemical, alcohol-type, or all purpose-type foams applied by manufacturers' recommended techniques.			
SPECIAL FIRE FIGHTING PROCEDURES	After water has evaporated and solids are burning, use self-contained breathing apparatus. Oxides of nitrogen may be evolved from fire.			
UNUSUAL FIRE AND EXPLOSION HAZARDS	None			

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EMERGENCY PHONE NUMBER • 304/744-3487 • This number is available days, nights, weekends, and holidays.

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