



PPG INDUSTRIES, INC.

ONE PPG PLACE

PITTSBURGH, PA 15272

*** CR-39(R) MONOMER

MSDS NUMBER: 0120
DATE: 07/11/89
EDITION: 006
TRADE NAME: CR-39(R) MONOMER
CHEMICAL NAME/SYNONYMS: DIALLYL DIGLYCOL CARBONATE
CHEMICAL FAMILY: GLYCOL ESTER
FORMULA: C12H18O7 CAS NUMBER: 000142 22 3
U.S. DOT SHIPPING NAME: NOT REGULATED
U.S. DOT HAZARD CLASS: NOT REGULATED
SUBSIDIARY RISK: N/A
I.D. NUMBER: N/A
REPORTABLE QUANTITY: N/A

SECTION 1 * PHYSICAL DATA

BOILING POINT @ 760 MM HG: > 200 C
VAPOR DENSITY (AIR=1): UNKNOWN
SPECIFIC GRAVITY (H2O=1): 1.143 @ 20/4 C
PH OF SOLUTIONS: N/A
FREEZING/MELTING POINT: -4C SUPER COOLS READILY
SOLUBILITY (WEIGHT % IN WATER): INSOLUBLE
BULK DENSITY: 9.57 LBS/GAL
VOLUME % VOLATILE: 100%
VAPOR PRESSURE: 2 MM HG @ 166 C
EVAPORATION RATE: (ETHER =1): <1
HEAT OF SOLUTION: N/A
APPEARANCE AND ODOR:
CLEAR COLORLESS LIQUID WITH SLIGHT ODOR

SECTION 2 * INGREDIENTS

MATERIAL	PERCENT
DIALLYL DIGLYCOL CARBONATE (CR-39 MONOMER)	100

SECTION 3 * FIRE/EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED):
343 F (SETAFLASH CC)

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ONE PPG PLACE

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* * CR-39(R) MONOMER

07/11/89 PAGE 2

FLAMMABLE LIMITS IN AIR (% BY VOLUME)

LEL: UNKNOWN

UEL: UNKNOWN

EXTINGUISHING MEDIA:

FOAM, DRY CHEMICAL OR CARBON DIOXIDE

SPECIAL FIRE FIGHTING PROCEDURES:

NONE

UNUSUAL FIRE AND EXPLOSION HAZARDS:

NONE

SECTION 4 * HEALTH HAZARD DATA**TOXICITY DATA:**

LC50 INHALATION:	SEE SECTION 5
LD50 DERMAL:	(RABBITS) > 3038 MG/KG
SKIN/EYE IRRITATION:	SEE SECTION 5
LD50 INGESTION:	(RATS) 349 MG/KG
FISH, LC50 (LETHAL CONCENTRATION):	SEE SECTION 5

CLASSIFICATION: (POISON, IRRITANT, ETC.)

INHALATION:	NOT SIGNIFICANTLY TOXIC
SKIN:	NOT SIGNIFICANTLY TOXIC
SKIN/EYE:	IRRITANT
INGESTION:	MODERATELY TOXIC
AQUATIC:	SEE SECTION 5

SECTION 5 * EFFECTS OF OVEREXPOSURE

THIS SECTION COVERS EFFECTS OF OVEREXPOSURE FOR INHALATION, EYE/SKIN CONTACT, INGESTION AND OTHER TYPES OF OVEREXPOSURE INFORMATION IN THE ORDER OF THE MOST HAZARDOUS AND THE MOST LIKELY ROUTE OF OVEREXPOSURE.

IS CHEMICAL LISTED AS A CARCINOGEN OR POTENTIAL CARCINOGEN?

NTP - NO IARC - NO OSHA - NO

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

NONE KNOWN.

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**PERMISSIBLE EXPOSURE LIMITS:**

NONE ESTABLISHED BY OSHA, ACGIH OR PPG.

ACUTE:

EYE CONTACT: ANIMAL STUDIES REVEALED CR-39(R) MONOMER TO BE SLIGHTLY IRRITATING TO EYES. HOWEVER, HUMAN EXPERIENCE HAS SHOWN THAT EYE CONTACT WITH LIQUID OR AIRBORNE CR-39(R) MONOMER CAN CAUSE MODERATE TO SEVERE IRRITATION, TEARING, INCREASED SENSITIVITY TO LIGHT, BURNING AND PAIN.

SKIN CONTACT: ALTHOUGH ANIMAL STUDIES HAVE BEEN CONDUCTED WITH CR-39(R) MONOMER, THEY ARE NOT INDICATIVE OF HUMAN EXPERIENCE WITH THIS MATERIAL. HUMAN EXPERIENCE HAS INDICATED THAT IN PARTICULAR, REPEATED SKIN CONTACT WITH EVEN VERY SMALL AMOUNTS CAN CAUSE SEVERE IRRITATION, POSSIBLY LEADING TO BLISTERING AND SECONDARY INFECTION. THERE ARE ALSO INDICATIONS THAT SOME INDIVIDUALS MAY EXPERIENCE CONTACT URTICARIA WHICH IS CHARACTERIZED BY HIVES, ITCHING AND REDNESS. THE DEGREE OF REACTION FROM CONTACT MAY VARY SIGNIFICANTLY BETWEEN INDIVIDUALS, DEPENDING ON SUSCEPTIBILITY, AND AMOUNT AND DURATION OF EXPOSURE.

OTHER STUDIES ON RHESUS MONKEYS SHOW THAT CR-39(R) MONOMER PENETRATES THE SKIN AND THAT 90% OF THE AMOUNT ABSORBED IS ELIMINATED FROM THE BODY WITHIN 4 DAYS.

AT THIS TIME, PPG IS NOT AWARE OF ANY EFFECTS UPON HUMANS FROM SKIN EXPOSURE TO CR-39(R) MONOMER IN THE WORKPLACE OTHER THAN THE SKIN EFFECTS MENTIONED ABOVE.

INHALATION: CR-39(R) MONOMER HAS BEEN TESTED FOR INHALATION TOXICITY IN RATS. ONE-HOUR EXPOSURES AT A CONCENTRATION OF 0.73 MG/LITER (MAXIMUM ATTAINABLE CONCENTRATION AT 25 C) CAUSED NO DEATHS IN TEST ANIMALS. DUE TO ITS LOW VAPOR PRESSURE, CR-39(R) MONOMER IS NOT CONSIDERED TO BE A HAZARD BY INHALATION OF VAPORS; HOWEVER, IF CONDITIONS EXIST WHICH GENERATE SUBSTANTIAL VAPORS OR MISTS, INHALATION WOULD BE EXPECTED TO RESULT IN SEVERE IRRITATION OF THE EYES, MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

INGESTION: ACCIDENTAL SWALLOWING OF CR-39(R) MONOMER COULD CAUSE BURNS OF THE MOUTH AND GI TRACT, ILLNESS OR EVEN DEATH.

FISH, LC50 (LETHAL CONCENTRATION):

96-HOUR - BLUEGILL - 0.57 MG/L

- HIGHLY TOXIC

48-HOUR - WATER FLEA - 18 MG/L

- MODERATELY TOXIC



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* * CR-39(R) MONOMER

07/11/89 PAGE 4

96-HOUR - SHEEPSHEAD MINNOWS - 0.707 PPM - HIGHLY TOXIC
96-HOUR - MYSID SHRIMP - 70.7 MG/L - SLIGHTLY TOXIC
96-HOUR EC50 - MARINE ALGA - >10.0 MICROLITER/LITER - MODERATELY TOXIC

CHRONIC:

A TERATOLOGY STUDY USING SKIN EXPOSURE OF PREGNANT RABBITS PRODUCED SIGNIFICANT TOXICITIES IN THE UNBORN (INCREASED RATE OF ABORTION AND EYE ABNORMALITIES) AT DOSE LEVELS WHICH CAUSED SIGNIFICANT TOXICITY TO THE MOTHER (DEATHS, BODY WEIGHT SUPPRESSION, AND LIVER EFFECTS). HOWEVER, THERE WAS NO EVIDENCE THAT CR-39(R) MONOMER EXPOSURE TO THE SKIN CAUSED EFFECTS ON THE UNBORN IN THE ABSENCE OF SIGNIFICANT HARMFUL EFFECTS TO THE MOTHER. SKIN IRRITATION WAS PRESENT IN ALL MONOMER TREATED GROUPS. THE RESULTS OF THIS STUDY FURTHER EMPHASIZES THE REQUIREMENT FOR ADEQUATE MEASURES TO MINIMIZE DERMAL EXPOSURES TO CR-39(R) MONOMER TO PROTECT AGAINST ALL POTENTIAL TOXIC EFFECTS. USE OF PROPER PROTECTIVE EQUIPMENT, GOOD INDUSTRIAL HYGIENE PRACTICES AND PROCEDURES, GOOD SAFETY PRACTICES AND PROCEDURES AND MINIMIZING ACUTE EXPOSURES SHOULD ALWAYS BE EMPLOYED.

*** EMERGENCY AND FIRST AID PROCEDURES****INHALATION:**

IF SYMPTOMS OF IRRITATION OR DISCOMFORT OCCUR, REMOVE AFFECTED PERSON TO FRESH AIR. IF IRRITATION OR DISCOMFORT PERSISTS, CONSULT A PHYSICIAN.

EYE OR SKIN CONTACT:

FOR EYE CONTACT, FLUSH THOROUGHLY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IMMEDIATELY CONSULT A PHYSICIAN. FOR SKIN CONTACT, WASH WITH SOAP AND WARM WATER. IF IRRITATION OCCURS, CONSULT A PHYSICIAN.

INGESTION:

IF CONSCIOUS, DRINK LARGE QUANTITIES OF WATER. THEN INDUCE VOMITING BY PLACING A FINGER FAR BACK IN THE THROAT. CALL A PHYSICIAN. IF VOMITING CANNOT BE INDUCED, TAKE IMMEDIATELY TO A HOSPITAL OR PHYSICIAN. IF UNCONSCIOUS, OR IN CONVULSIONS, TAKE IMMEDIATELY TO A HOSPITAL. DO NOT ATTEMPT TO INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

NOTES TO PHYSICIAN (INCLUDING ANTIDOTES):

TREAT SYMPTOMATICALLY.

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ONE PPG PLACE

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07/11/89 PAGE 5

SECTION 6 * REACTIVITY DATA

STABILITY: STABLE

CONDITIONS TO AVOID: HEAT, MOISTURE; MAY DECOMPOSE, FORMING ALLYL ALCOHOL
HAZARDOUS POLYMERIZATION: MAY OCCUR

CONDITIONS TO AVOID: HIGH TEMP. /CONTAMINATION
INCOMPATIBILITY (MATERIALS TO AVOID):

HIGH TEMPERATURES, CONTAMINATION WITH POLYMERIZATION INITIATORS.
MONOMER MIXED WITH IPP MUST BE STORED BELOW 25 F (-5 C). AVOID
WATER AND STRONG ALKALIES.

HAZARDOUS DECOMPOSITION PRODUCTS:

ALLYL ALCOHOL MAY BE FORMED.

SECTION 7 * SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED:

EVACUATE AREA. ONLY PERSONNEL EQUIPPED WITH EYE AND SKIN PROTECTION SHOULD BE ALLOWED IN AREA. BE CAREFUL - AREA OF SPILL MAY BE SLIPPERY. DIKE AREA OF SPILL WITH SOIL OR SAND TO CONTAIN SPILLED MATERIAL. RECOVER SPILLED MATERIAL ON ADSORBENTS, SUCH AS SAND OR VERMICULITE, AND SWEEP INTO COVERED CONTAINERS FOR DISPOSAL. IF AREA OF SPILL IS POROUS (I.E., SOIL, GRAVEL, ETC.), REMOVE CONTAMINATED POROUS SURFACE AND PLACE IN COVERED CONTAINERS FOR DISPOSAL. AFTER ALL VISIBLE TRACES OF SPILLED MATERIAL HAVE BEEN REMOVED, THOROUGHLY WASH AREA WITH SOAP AND WATER.

WASTE DISPOSAL METHOD:

PPG RECOMMENDS DISPOSAL OF ABSORBENT MATERIAL IN AN APPROVED HAZARDOUS WASTE MANAGEMENT FACILITY. CARE MUST BE TAKEN WHEN USING OR DISPOSING OF CHEMICAL MATERIALS AND/OR THEIR CONTAINERS TO PREVENT ENVIRONMENTAL CONTAMINATION. IT IS YOUR DUTY TO DISPOSE OF THE CHEMICAL MATERIALS AND/OR THEIR CONTAINERS IN ACCORDANCE WITH THE CLEAN AIR ACT, THE CLEAN WATER ACT, THE RESOURCE CONSERVATION AND RECOVERY ACT, AS WELL AS ANY OTHER RELEVANT FEDERAL, STATE, OR LOCAL LAWS/REGULATIONS REGARDING DISPOSAL.

SECTION 8 * SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

IN SITUATIONS WHERE EXPOSURE TO VAPORS AND/OR MISTS IS LIKELY, USE NIOSH/MSHA

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* * CR-39(R) MONOMER

07/11/89 PAGE 6

APPROVED ORGANIC VAPOR CARTRIDGE OR CANISTER TYPE RESPIRATOR. THE RESPIRATOR USE LIMITATIONS MADE BY NIOSH/MSHA OR THE MANUFACTURER MUST BE OBSERVED. RESPIRATORY PROTECTION PROGRAMS MUST BE IN ACCORDANCE WITH 29 CFR 1910.134.

VENTILATION(TYPE):

LOCAL EXHAUST AND GENERAL ROOM VENTILATION SUFFICIENT TO PREVENT EMPLOYEE EYE IRRITATION.

EYE PROTECTION:

CHEMICAL GOGGLES

GLOVES:

SEE "GLOVE PERMEATION" SECTION UNDER "COMMENTS" BELOW.

OTHER PROTECTIVE EQUIPMENT:

BOOTS, APRONS, OR CHEMICAL SUITS SHOULD BE USED WHEN NECESSARY TO PREVENT SKIN CONTACT. PERSONAL PROTECTIVE CLOTHING AND USE OF EQUIPMENT MUST BE IN ACCORDANCE WITH 29 CFR 1910.132 AND 29 CFR 1910.133. ALSO SEE "LIMITING SKIN CONTACT WITH CR-39(R) MONOMER" UNDER "COMMENTS" BELOW.

SECTION 9 * SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORING:

- * WHEN HANDLING, WEAR IMPERVIOUS GLOVES, GAUNTLETS, APRON, AND CHEMICAL SAFETY GLASSES.
- * WEAR RESPIRATORY PROTECTION WHENEVER POTENTIAL EXPOSURE TO VAPORS OR MISTS MAY OCCUR.
- * STORE IN A COOL, DRY AREA.
- * STORE ONLY IN CLOSED, PROPERLY LABELED CONTAINERS.
- * DO NOT CLEAN OR RECONDITION EMPTY DRUMS WITH STRONG ALKALI SOLUTION SUCH AS CAUSTIC SODA OR CAUSTIC POTASH. ALLYL ALCOHOL MAY BE FORMED.

OTHER PRECAUTIONS:

- * AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. MAY CAUSE SKIN IRRITATION AND URTICARIA AND MAY PENETRATE SKIN. EYE CONTACT WILL RESULT IN SEVERE IRRITATION.
- * DO NOT SWALLOW.
- * WASH FREQUENTLY AND THOROUGHLY AFTER HANDLING WITH SOAP AND WARM WATER.
- * WEAR CLEAN CLOTHING DAILY. CHANGE CLOTHING WHENEVER CONTAMINATION OCCURS.
- * DO NOT EAT, DRINK OR SMOKE IN WORK AREA.

COMMENTS:

TSCA - DIALLYL DIGLYCOL CARBONATE IS ON THE TSCA INVENTORY UNDER CAS NO. 142-22-3.

SARA TITLE III - A) 311/312 CATEGORIES - ACUTE, B) NOT LISTED IN SECTION 313, C) NOT LISTED AS AN "EXTREMELY HAZARDOUS SUBSTANCE" IN SECTION 302.

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GLOVE PERMEATION OF CR-39(R) MONOMER
THROUGH THE MATERIALS OF COMMERCIALY AVAILABLE GLOVES:

INTRODUCTION:

THE MOST PRONOUNCED HEALTH HAZARD TO USERS OF CR-39(R) MONOMER IS ITS IRRITATING EFFECT ON THE SKIN. THE USE OF GLOVES, THEREFORE, IS HIGHLY RECOMMENDED FOR WORKERS WHO MAY BE EXPOSED TO THE MONOMER. SINCE GLOVES ARE AVAILABLE IN A WIDE VARIETY OF MATERIALS AND SINCE THESE MATERIALS ARE LIKELY TO EXHIBIT A RANGE OF BARRIER EFFECTIVENESS TOWARDS CR-39(R) MONOMER, A STUDY WAS CONDUCTED TO EVALUATE SEVERAL GLOVE MATERIALS.

IT IS IMPORTANT TO NOTE THAT PROTECTIVE CLOTHING PERMEATION TESTING IS NOT AN EXACT SCIENCE AT THIS TIME. THE RESULTS PROVIDED MAY NOT NECESSARILY AGREE WITH THOSE OBTAINED BY OTHERS DUE TO DIFFERENCES IN PERMEATION CELL DESIGN, COLLECTION OR TRANSPORT MEDIA, AND ANALYTICAL METHODS AND SENSITIVITY. FURTHERMORE, PROTECTIVE CLOTHING FROM DIFFERENT MANUFACTURERS, BUT MADE OF THE SAME MATERIAL, MAY HAVE VARIABLE PERMEATION TEST RESULTS.

PERMEATION TEST METHOD:

PERMEATION TESTING WAS PERFORMED FOLLOWING THE PROCEDURES ESTABLISHED IN ASTM F-739-81, "STANDARD TEST METHOD FOR RESISTANCE OF PROTECTIVE CLOTHING MATERIALS TO PERMEATION BY HAZARDOUS LIQUID CHEMICALS."

THE TEST PROCEDURE INVOLVED CLAMPING GLOVE MATERIAL SPECIMENS BETWEEN TWO CHAMBERS. AFTER THE CELL WAS ASSEMBLED, A COLLECTION FLUID WAS CHARGED INTO THE ONE CHAMBER. THE FLUID WAS MIXED WITH A MAGNETIC STIRRER BAR FOR 5-10 MINUTES AND THEN SAMPLED. THIS SAMPLE SERVED AS A "BLANK" OR CONTROL. THE RADIOLABELED CR-39(R) MONOMER WAS ADDED TO THE OTHER CHAMBER AND THE TIMING OF THE EXPERIMENT BEGAN. A 20 SQUARE CENTIMETER AREA OF MATERIAL WAS EXPOSED TO THE MONOMER. THE COLLECTION MEDIUM WAS SAMPLED AFTER TIMES OF 0.25, 0.5, 2, 4, 6, AND 8 HOURS. EACH GLOVE MATERIAL WAS TESTED IN TRIPLICATE AND EACH TEST WAS TERMINATED AFTER EIGHT HOURS. THE DETECTION LIMIT IN THE COLLECTION MEDIA WAS 0.4PPM WHICH IS APPROXIMATELY EQUIVALENT TO A PERMEATION OF 1 MICROGRAM/SQUARE CENTIMETER OF THE EXPOSED MATERIAL.

RESULTS:

NINE TYPES OF COMMERCIALY AVAILABLE GLOVES WERE TESTED. THE TEST SPECIMENS WERE CUT FROM THE PALM AREA FOR EIGHT OF THE GLOVE TYPES. SEAMED GLOVE SECTIONS WERE ALSO TESTED FOR THE .0044CM EDMONT POLYETHYLENE GLOVE TO DETERMINE WHETHER PERMEATION RATES VARY BETWEEN SEAMED AND PALM SECTIONS OF THE GLOVE WERE TESTED TO INVESTIGATE THE EFFECT GLOVE THICKNESS HAS ON PERMEATION RATE.

THE LEAST PERMEABLE GLOVES TO CR-39(R) MONOMER OF THE NINE TESTED WERE



THE EDMONT NITRILE AND THE NORTON BUTYL GLOVES. NO PERMEATION WAS DETECTED EVEN AFTER EIGHT HOURS OF EXPOSURE. THE GLOVE MOST PERMEABLE TO CR-39(R) MONOMER WAS THE EDMONT PVC. THE OTHER SIX GLOVE MATERIALS WERE PERMEATED TO VARYING DEGREES AS ILLUSTRATED IN TABLE 1. PERMEATION RESULTS LISTED ARE THE MEAN OF THE THREE TRIALS AND REPRESENT THE CUMULATIVE AMOUNT OF CR-39(R) MONOMER DETECTED IN THE COLLECTION MEDIUM.

NO SIGNIFICANT DIFFERENCE WAS DETECTED IN PERMEATION RATES BETWEEN THE .0044 AND .0033CM THICK POLYETHYLENE GLOVES. BOTH GLOVES HAD BREAKTHROUGH AT THE FIRST MEASURED INTERVAL (15 MINUTES) AND MAINTAINED LOW PERMEATION RATES.

THE RESULTS OF THE POLYETHYLENE GLOVE TESTS INDICATE THAT A GOOD SEAMED SECTION OF A GLOVE IS AS PERMEATION RESISTANT AS THE SHEET MATERIAL IT-SELF. IT SHOULD BE NOTED, HOWEVER, THAT PRIOR TO PERMEATION TESTING THE GLOVES WERE LEAK TESTED WITH AIR PRESSURE. THE OBJECTIVE WAS TO IDENTIFY AND DISCARD ANY SPECIMENS WITH FLAWED SEAMS. ONE OF FIVE SPECIMENS TESTED WAS FOUND TO LEAK. THIS SUGGESTS THAT SEAMED GLOVES SHOULD BE EXAMINED CAREFULLY FOR SEAM INTEGRITY PRIOR TO USING AND PERIODICALLY DURING USE OF THE GLOVES.

IN RECENT STUDIES, SPECIMENS OF MATERIAL TAKEN FROM SILVER SHIELD GLOVES (NORTH HAND PROTECTION) WERE TESTED AGAINST CR-39(R) MONOMER FOLLOWING STANDARD ASTM PROCEDURES. THE RESULTS INDICATED THE MATERIAL TO BE TOTALLY IMPERVIOUS TO CR-39(R) MONOMER IN BOTH PERMEATION AND DEGRADATION.

PPG RECOMMENDS THAT YOU VERY CAREFULLY EVALUATE YOUR GLOVE PROGRAM SO THAT SKIN CONTACT WITH CR-39(R) MONOMER IS MINIMIZED.

THE INFORMATION IN THIS SECTION IS PRESENTED GRATUITOUSLY INDEPENDENT OF ANY SALE OF THE PRODUCT, ONLY FOR YOUR INVESTIGATION AND INDEPENDENT VERIFICATION. WHILE THE INFORMATION IS BELIEVED TO BE CORRECT, PPG MAKES NO REPRESENTATION AS TO THE ACCURACY OF THE INFORMATION CONTAINED HEREIN.

FOR ADDITIONAL INFORMATION, PLEASE CONTACT YOUR PPG REPRESENTATIVE.

TABLE 1

PERMEATION OF CR-39 MONOMER THROUGH GLOVE MATERIALS		
	INITIAL BREAKTHROUGH (HOURS)	AVE. PERMEATION RATE BETWEEN HOURS 6 & 8 (MG/SQ. CENT. HR)
EDMONT, NITRILE 37-155	NONE DETECTED	NONE DETECTED
NORTON, BUTYL B-131R	NONE DETECTED	NONE DETECTED
EDMONT, NEOPRENE 29-840	4	0.01



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PITTSBURGH, PA 15272

* * CR-39(R) MONOMER

07/11/89 PAGE 9

PLAYTEX 834	2	0.04
ANSELL, LATEX 384	2	0.05
EDMONT, LATEX 46-321	0.5	0.15
EDMONT, POLYETHYLENE 35-124	0.25	0.01
EDMONT, POLYETHYLENE 35-152	0.25	0.01
EDMONT, PVC 34-550	0.25	0.40

LIMITING SKIN CONTACT WITH CR-39(R) MONOMER:

WORKERS OFTEN OBJECT TO WEARING HEAVY RUBBER GLOVES WHEN CASTING CR-39(R) MONOMER BECAUSE MANUAL DEXTERITY IS NEEDED TO FILL THE MOLDS. MANY OF THESE CASTING PROCESSES ARE NOT AUTOMATED AND SKIN CONTACT WITH CR-39(R) MONOMER CAN OCCUR IF GLOVES ARE NOT WORN. PLEASE REFER TO THE GLOVE PERMEATION INFORMATION ABOVE WHICH DETAILS THE RESULTS OF A PPG-SPONSORED GLOVE STUDY. TO HELP AVOID SKIN CONTACT, WORKERS SHOULD ALSO WEAR GAUNTLETS. IT IS IMPORTANT TO EMPHASIZE THAT A SINGLE EXPOSURE OF THE SKIN TO CR-39(R) MONOMER HAS BEEN KNOWN TO CAUSE IRRITATION. REPEATED EXPOSURES HAVE BEEN KNOWN TO RESULT IN DERMATITIS. RECENT STUDIES INDICATE THAT SOME INDIVIDUALS MAY EXPERIENCE CONTACT URTICARIA WHICH IS CHARACTERIZED BY HIVES, ITCHING AND REDNESS. THE DEGREE OF SKIN IRRITATION RESULTING FROM CONTACT WITH CR-39(R) MONOMER MAY VARY SIGNIFICANTLY AMONG INDIVIDUALS DEPENDING UPON INDIVIDUAL SUSCEPTIBILITY, AMOUNT AND DURATION OF EXPOSURE. AS ADDITIONAL INFORMATION IS DEVELOPED, THIS WILL BE TRANSMITTED TO YOU.

MOISTURE IS BELIEVED TO BE AN IMPORTANT CONTRIBUTOR TO IRRITATION. THEREFORE, MOIST SKIN AREAS SUCH AS THE PALMS OF THE HANDS, BETWEEN THE FINGERS, UNDER RINGS OR UNDER A WATCH BAND MAY BE SENSITIVE.

TO AVOID INADVERTENT OR INDIRECT SKIN CONTACT WITH CR-39(R) MONOMER, CAREFUL CONSIDERATION MUST BE GIVEN TO THE ADOPTION OF GOOD WORK AND HOUSEKEEPING PRACTICES.

AFTER WORKING IN OPERATIONS WHERE SKIN CONTACT MAY HAVE OCCURRED, EVEN THOUGH THEY MAY HAVE USED SKIN PROTECTION, WORKERS SHOULD WASH THEIR HANDS AND ARMS THOROUGHLY WITH SOAP AND HOT WATER BEFORE USING THE TELEPHONE, OPENING DRAWERS, TOUCHING UTENSILS, ETC. GLOVES SHOULD BE WASHED WITH SOAP AND WATER BEFORE REMOVAL. CLOTHING CONTAMINATED WITH CR-39(R) MONOMER SHOULD BE PROMPTLY REMOVED AND WASHED BEFORE REUSE. PPG RECOMMENDS THAT WORKERS PERFORM THOSE OPERATIONS IN WHICH SKIN CONTACT WITH CR-39(R) MONOMER MAY OCCUR IN AREAS WHICH ARE ISOLATED FROM OFFICES, EATING AREAS AND RESTROOMS.

GOOD VENTILATION AND HOOD EXHAUST OF THE CURING OVENS ARE ALSO IMPORTANT

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PPG INDUSTRIES, INC.

ONE PPG PLACE

PITTSBURGH, PA 15272

* * CR-39(R) MONOMER

07/11/89 PAGE 10

SINCE AIRBORNE VAPORS CAUSE EYE IRRITATION. CR-39(R) MONOMER HAS A VERY LOW VAPOR PRESSURE, BUT THE HIGH TEMPERATURES OF THE FINAL STAGES OF THE CURE CYCLE VAPORIZE EXCESS MONOMER LEAKING FROM THE MOLDS AT THE EDGES OF THE GASKETS. THIS MONOMER VAPOR CAN CAUSE CONSIDERABLE IRRITATION. IF POSSIBLE, THE MOLDS SHOULD BE OPENED IN A HOODED AREA WITH EXIT EXHAUST.

PROTECTIVE EYEWEAR SHOULD BE WORN TO KEEP SPLASHES OUT OF THE EYES. IF A SPLASH DOES OCCUR, WASH EYE FOR 15 MINUTES IN A SUITABLE EYEWASH FOUNTAIN. ROLL EYES AROUND WHILE FLUSHING TO ASSURE COMPLETE REMOVAL OF THE CR-39(R) MONOMER. IF IRRITATION STILL OCCURS, SEE A DOCTOR, PREFERABLY AN EYE SPECIALIST.

SMALL SPILLS SHOULD BE CLEANED UP PROMPTLY WITH A CLOTH. LARGER QUANTITIES SHOULD BE ABSORBED WITH VERMICULITE OR SAND. THE CLEANING MATERIAL OR ABSORBENT SHOULD THEN BE PLACED IN A CLOSED RECEPTACLE AND STORED TO PREVENT EMPLOYEE EXPOSURE WHILE AWAITING ULTIMATE DISPOSAL ACCORDING TO LOCAL AND STATE REQUIREMENTS. FINAL TRACES OF MONOMER SHOULD BE REMOVED FROM THE WORKING SURFACES AND EQUIPMENT AT THE END OF EACH DAY WITH ACETONE OR OTHER SOLVENT. CHECK SOLVENT SUPPLIER FOR SAFETY AND HANDLING INFORMATION ON ORGANIC SOLVENTS.

IF THE ABOVE PRACTICES ARE EMPLOYED, SKIN CONTACT AND RESULTANT IRRITATION MAY BE KEPT TO A MINIMUM.

STATEMENTS AND METHODS PRESENTED ARE BASED UPON THE BEST AVAILABLE INFORMATION AND PRACTICES KNOWN TO PPG INDUSTRIES AT PRESENT, BUT ARE NOT REPRESENTATIONS OR WARRANTIES OF PERFORMANCE, RESULT OR COMPREHENSIVENESS, NOR DO THEY IMPLY ANY RECOMMENDATION TO INFRINGE ANY PATENT OR AN OFFER OF LICENSE UNDER ANY PATENT.

THE PRODUCT MENTIONED HEREIN CAN BE HAZARDOUS IF NOT USED PROPERLY. ANY HEALTH HAZARD AND SAFETY INFORMATION CONTAINED HEREIN SHOULD BE PASSED ON TO YOUR CUSTOMERS OR EMPLOYEES, AS THE CASE MAY BE. PPG INDUSTRIES ALSO RECOMMENDS THAT ANYONE USING OR HANDLING THIS PRODUCT THOROUGHLY READ AND UNDERSTAND THE INFORMATION AND PRECAUTIONS ON THE LABEL, AS WELL AS IN THE MATERIAL SAFETY DATA SHEET AND PRODUCT BULLETIN, BEFORE USE.

ALTHOUGH THIS PRODUCT IS INTENDED FOR INDUSTRIAL AND MANUFACTURING USES, IT, AS ALL HAZARDOUS MATERIALS, MUST BE KEPT OUT OF THE REACH OF CHILDREN.

R. KENNETH LEE
MANAGER, PRODUCT SAFETY

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