THE CORPORATION OF THE CITY OF PORT COQUITLAM

ENVIRONMENTAL PROTECTION COMMITTEE

Wednesday, July 20, 1994

Meeting Room No. 2
2580 Shaughnessy Street, Port Coquitlam, BC

5:00 p.m.

AGENDA

PERSONNEL IN ATTENDANCE:

CONFIRMATION OF MINUTES OF PREVIOUS MEETING

ITEM I: MR. MARK ELLERMAN - WESTERN COMMERCIAL MILLWORK LTD.

ITEM II: EMERGENCY SPILL RESPONSE KIT

ITEM III: OTHER BUSINESS

JUL 2 0 1994

THE CORPORATION OF THE CITY OF PORT COQUITLAM

ENVIRONMENTAL PROTECTION COMMITTEE

MINUTES

A meeting of the Environmental Protection Committee was held at City Hall, 2580 Shaughnessy Street, Port Coquitlam, on Wednesday, July 20, 1994 at 5:00 p.m. in Meeting Room #2.

In attendance were:

Councillor M. Gates, Chairman
Councillor R. Talbot, Co-Chairman
J.E. Yip, P. Eng., Deputy City Engineer
C. Deakin, Engineering Secretary

The minutes for the July 6, 1994 Committee meeting were considered, read and adopted.
Carried

ITEM I: DELEGATION - MARK ELLERMAN - WESTERN COMMERCIAL MILLWORK

Deputy Engineer explained that Mr. Ellerman had been invited to the meeting concerning noise/odour coming from the roof top ventilator of the Western Commercial Millwork Ltd. building. The noise and pollution are currently being directed towards the residential area of Pooley and Connaught.

Mr. Ellerman proposed that he could turn the cowling around so that noise is deflected in the opposite direction towards the industrial park. Councillor Gates asked that Mr. Ellerman contact the City when he has done this so a site inspection could be done to see if further steps would be needed.

ITEM II: EMERGENCY SPILL RESPONSE KIT

Committee reviewed the report from the Operations Department detailing what emergency responses and equipment are used presently. After reviewing the detailed report, Committee felt the response was sufficient and that emergency spill response kits would not be needed. Deputy Engineer to write letter to Pygmalion thanking them for the info but declining extra purchases.

ITEM III: OTHER BUSINESS

a) Post-Consumer Paint Stewardship

The Committee received this report for information.

Cont'd .../2

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Environmental Protection Committee Meeting of July 20, 1994 Cont'd ...

b) Dyking Project

Committee received this report for information.

c) Douglas Island

Committee received this report for discussion.

There being no further business the meeting adjourned at 5:50 pm.

for J.E. Yip, P. Eng.
Deputy City Engineer

Councillor M. Gates
Committee Chairman

JEY/cd

NOTE Minutes not read and adopted by the Committee until certified correct by the Chairman's signature.

cc: Mayor and Councillors
City Administrator
City Engineer
Project Engineer
Project Technician

JUL 20 1994

THE CORPORATION OF THE
CITY OF PORT COQUITLAM

MEMORANDUM

TO: Environmental Protection Committee DATE: July 18, 1994

FROM: J.E. Yip, P. Eng., FILE: EPC
Deputy City Engineer

SUBJECT: **WESTERN COMMERCIAL MILLWORK LTD.**
#133 - 1585 Broadway Street
MR. MARK ELLERMAN

The owner of Western Commercial Millwork, Mr. Mark Ellerman will appear as a delegation to address the issue of noise and paint fume emmissions from his industrial operation.

His company operation involves the painting of decorative moldings. Presently, they are working two shifts with an afternoon crew. The exhaust fumes are part of the drying units and are mounted on the roof of the building.

J. E. Yip, P. Eng.
Deputy City Engineer

JEY:cd

JUL 20 1994

THE CORPORATION OF THE
CITY OF PORT COQUITLAM

MEMORANDUM

TO: Environmental Protection Committee

DATE: July 14, 1994

FROM: Francis K.K. Cheung, P. Eng.
Project Engineer

FILE No: EPC

SUBJECT: **EMERGENCY SPILL RESPONSE KIT**

RECOMMENDATION:

1. That Committee receive this memorandum for information only.

BACKGROUND & COMMENTS:

At the EPC meeting held July 06, 1994, the Committee considered the letter from Mr. Rod Asher of Pigmalion Environmental Products regarding emergency spill response kit for police force vehicles.

I have consulted this issue with Fire Chief Gord Routley in my memorandum of July 08, 1994. The attached memorandum from Chief Routley, dated July 13, 1994, is his response to the questions that were raised in my memorandum.

Francis K.K. Cheung, P. Eng.
Project Engineer

FKKC/
attachment

JUL 20 1994

THE CORPORATION OF THE
CITY OF PORT COQUITLAM

MEMORANDUM

TO: Gord Routley
Fire Chief

DATE: July 08, 1994

FROM: Francis K.K. Cheung, P. Eng.
Project Engineer

FILE No: EPC

SUBJECT: **Emergency Spill Response Kit**

At the regular Environmental Committee Meeting of July 06, 1994, the Committee considered the above captioned item and referred it to the Fire Department for consideration.

The Committee noted the following questions:

1. Does the Fire Department require all fire trucks to carry a spill response kit for containing hazardous spills?

2. Does the Fire Department follow a spill response procedural manual for containing hazardous spills?

3. Do you know if all RCMP vehicles carry a spill response kit?

4. Is the RCMP permitted to contain a spills if they are first to arrive on the scene?

Please call me at Local 223 should you have any inquiries.

Francis K.K. Cheung, P. Eng.
Project Engineer

FKKC/
attachment

CC Council

PEP
CALGARY EDMONTON
VANCOUVER

PIGMALION ENVIRONMENTAL PRODUCTS

(604) 940-1889 #7 - 3691 Viking Way, Richmond, B.C. V6V 1N6 Fax (604) 273-1090 Watts 1-800-397-7581

June 24th. 1994

Port Coquitlam City Hall,
2580 Shaughnessy,
Port Coquitlam, B.C.
V3C 2B5

Attn: Mayor Tramoulay and Council,

RE: EMERGENCY SPILL RESPONSE

Regarding the containment and clean-up of accidental hazardous liquids in any District or Municipality various agencies and departments are available over time to react, namely the local Fire Department, Provincial Emergency Response, Coast Guard etc.

In most instances where accidental spill occur under Municipal jurisdiction the first authority on the scene would be the local police officer. Usually the first official on the scene is best able to ascertain the severity of the incident and to take remedial action. He or she becomes the first line of defence against a spill becoming a more serious problem if left for others to clean up.

It would make sense for all local police force vehicles to carry small multi-use spill response kits as a basis for containing and absorbing minor spills and leaks from vehicle accidents.

You may wish to discuss this issue and refer the matter to the local emergency response groups as a recommendation and as an important part of your own "Due Diligence" in matters of containing accidental hazardous spills.

PIGMALION ENVIRONMENTAL is Canada's largest dedicated distributor of sorbent products. Our speciality is the design of spill kits to protect against any type of hazardous liquid spill.

We would be happy to send you further information or send a representative to demonstrate our spill kits or tailor make kits to your specifications.

Yours Sincerely,

Rod Asher

RECEIVED
CITY OF PORT COQUITLAM
JUN 27 1994

PIGMALION ENVIRONMENTAL PRODUCTS (WEST) INC.
WESTERN CANADA'S LEADER IN ABSORBENTS AND SPILL TECHNOLOGY
OFFICES IN CALGARY (403) 251-3032 AND EDMONTON (403) 435-0184

JUL 20 1994

PORT COQUITLAM FIRE/RESCUE
MEMO

July 13, 1994

TO: Francis K.K. Cheung, P.Eng.
Project Engineer

FROM: Gordon Routley
Fire Chief

SUBJECT: EMERGENCY SPILL RESPONSE KIT

In response to your Memorandum of July 8, 1994 we provide you with the following information:

1. No, Engine 8-1, 8-2, 8-4 and Truck 9-1 only carry Plug & Dyke for fuel tanks, Canutec Initial Emergency Response Book and Binoculars.

Truck 9-3, Rescue Vehicle:

- Binoculars
- 3 Buckets
- 6 Brushes
- 2 Pools
- 1 Bag Reflect vests
- 3 pairs rubber gloves
- 2 pairs rubber boots
- 2 garden hoses
- 1 roll duct tape
- 1 reducer coupling
- 1 1/2" garden hose
- 1 tub detergent
- 1 hard hat
- 1 container mixed Plug & Dyke
- 4 bags absorb W
- 2 bags G.P.
- 1 bag absorbent (orange bag)
- 4 chemical suits
- 2 rolls duct tape
- 2 rolls haz-mat tape
- 1 package coveralls
- 6 hard hats
- 4 sets knee pads
- 5 pair boots
- 1 large roll plastic
- 2 long handle scrub brushes
- 2 green suits
- 3 stools

#1 Fire Hall

- 4 bags absorbent G.P.
- 1/2 bag absorbent W
- 2 rolls of Dyking
- 23 square dyking pads
- 2 bags absorbent (Orange Bag)
- 5 large dyking sacks
- 3 small dyking sacks
- 1 - 3' long dyking sack

2. Manual of Procedures #880, #471, #525, #730 (att.)
Initial Response Guideline Books:
   - Manual for Spills of Hazardous Materials
   - Canutec - Initial Emergency Response
   - Emergency handling of Hazardous Materials
   - Compatibility Chart (att.)
   - Decontamination Procedure Manual (att.)

3. No.

4. Generally, traffic, crowd control or evacuation.

If you require any further information please call me at 944-5466.

Yours truly,

Gordon Routley
Fire Chief
Port Coquitlam Fire/Rescue

GR/cl
att.

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PORT COQUITLAM FIRE/RESCUE MANUAL OF PROCEDURES	April 1, 1993	Page 1 of 3	Procedure #880
	ACCIDENTS AND INJURIES TO MEMBERS		

1. **CLAIMING FOR COMPENSABLE INJURY**

A Doctor must be consulted for any claim under Compensable Injury.

2. **RECORDING**

a) The Shift Captain will ensure that all accidents however minor, that occur to members while on duty are recorded in the Daily Journal.

b) The following information will be recorded:

1) Name.
2) Date and time of injury.
3) Time reported.
4) Nature of injuries.
5) How accident or injuries occurred.
6) If Industrial Disease - nature and time of exposure.
7) First Aid rendered by whom.
8) Medical attention received.
9) Names of witnesses.
10) Other pertinent information.
11) Sufficient information in detail to complete forms (FD20 and WCB forms) that may be required.

3. **REPORTING**

a) Minor Injury - see Manual of Procedures #125-1(A).

b) First Aid Rendered - see Manual of Procedures #880-4.

c) Delayed Injury - where a slight accident or injury develops into a more serious case and a Doctor is consulted, Form FD20 "Fire Fighter Injury Report" will be submitted in the usual manner.

d) Injury to Eyes or Smoke Exposure - A Doctor must be consulted for any injury to the eyes, however slight, or smoke exposure where vomiting occurs.

e) When Oxygen is Used - in cases of exposure to toxic gases, chemical fumes, etc., and oxygen is administered, it must be noted on W.C.B. Form 7A First Aid Report. Vomiting, pallor and other symptoms must also be noted. Members must consult a Doctor.

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4. **REPORT OF COMPENSABLE INJURY FORM FD 20**

All accidents and injuries that occur on duty, where there is a work time loss or a Doctor is consulted, must be reported on a Form FD20. This form is to be completed in triplicate and signed by the Officer in charge of the shift concerned. The original plus one copy will be submitted to the Administration Office and one copy filed in Hall Records. Special attention will be paid to the section "describe fully what happened, etc.". The Administration Office will send one copy of Form FD20 to the City of Port Coquitlam Safety Officer. It is not necessary for the Officer in charge to notify the Safety Officer.

If a member books off on a recurring, previously reported injury, another FD20 is required. The Doctor's name, previously reported date of injury and type of injury must be shown in the Remarks Column.

The W.C.B. requires reports of injuries to reach the Board within three days of the date of injury. If the injury occurs on the last working shift before days off, all required W.C.B. forms will be submitted before the commencement of the member's days off. Either the injured member's Shift Captain or the on-coming Shift Captain may complete the forms.

If a member is working as a substitute and is injured the Shift Captain will show on the bottom of the SD2 "Member working as substitute" - refer to Manual of Procedures #680-2(f).

5. **INFORMING THE BOARD OF ACCIDENTS**

Every employer shall inform the Board's Accident Prevention Department immediately, when an accident occurs which:

a) causes critical injury or death;
b) involves a major structural failure or collapse of a building, bridge, tower, crane, hoist, temporary construction support system, or excavation or;
c) involves the major release of a toxic or hazardous substance; or
d) was a blasting accident required to be reported by regulation 46.22, or a diving accident required to be reported by regulation 11.22.

Accidents must be reported to the W.C.B., Office. See Manual of Procedures #125 - 2(a) and (b).

6. Workers' Compensation Board Industrial Health and Safety Regulations require employers to provide safety clothing and equipment to protect firefighting personnel.

Your compliance with these regulations is a very important step toward reducing injuries and industrial diseases.

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The failure to wear all the issued protective clothing increases the risk of injury and/or death and may result in the Workers' Compensable Claim being disqualified by the Workers' Compensation Board.

7. **HAZARDOUS MATERIALS OR DISEASE EXPOSURE FORM - FD18**

In order to establish a claim for exposure to disease or hazardous materials, all relevant information on past exposures may be required by Workers' Compensation. To locate this information, a form has been developed to record the exposure and to identify the firehall journal where the incident was officially documented. This form should be completed by the member for each incident where exposure to disease or hazardous materials occurs. When submitted, it will be placed on the member's personal file. This will enable quick retrieval of necessary information and will also provide a permanent record of individual exposure(s). Members are reminded that in addition to submitting this form, a detailed account of the incident, including all pertinent facts must be recorded in the Hall Journal.

This form does not replace a compensation report. Whenever an actual injury occurs, where there is a time loss, or a doctor is consulted, an FD20 must be submitted in the usual manner.

PORT COQUITLAM FIRE/RESCUE MANUAL OF PROCEDURES	May 7, 1992	Page 1 of 3	Procedure #471
	PETROLEUM PRODUCT SPILLS		

In the event of a major spill of petroleum products involving a tank truck, train, etc., there is a potential disaster at hand. The First-in-Officer must immediately assess the situation and notify Dispatch of conditions found.

The following factors should be considered in your assessment:

INJURIES

Rescue and E.H.S. must attend. Notify Dispatch immediately.

WHAT PRODUCT IS INVOLVED

Gasoline, diesel, others. Is it burning?

AMOUNT INVOLVED

Is containment possible?

IF SPILL ESCAPING

Where? Consider terrain, wind direction and velocity factor, exposures, time element (in regard to spread of spill).

ADDITIONAL HELP REQUIRED

Call out - City crews!

SPECIAL EQUIPMENT REQUIRED

E.G. approach suits, chemical suits, additional A-FFF foam, masks, Hurst tool, vapour detectors.

ESTABLISH SAFE PERIMETER

Consider evacuation of area. Request police assistance.

EXPERT ASSISTANCE REQUIRED

City agencies - Sewer, Engineering, others.

OIL COMPANY

Recovery and containment supervisor to assist in containment, recovery and disposal of spilled material.

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KEEP DISPATCH INFORMED OF ANY CHANGE IN SITUATION

ACTION IF NOT BURNING

This may be most dangerous due to spread of flammable vapours to unknown areas.

1. **RESCUE** - must be made quickly, and on foot, straight streams to flush spill away from rescue area. Fog streams to protect personnel.

2. **SHUT OFF FLOW IF POSSIBLE** - (Driver's know[illegible]e and assistance should be utilized).

3. **CONTAINMENT** - Contain spill by any means possibl[illegible] likes, earth, sand, salvage covers over sewer openings etc.

4. **SET UP TEMPORARY COMMAND POST UPWIND** - (until relieved by senior officer).

5. **PERIMETER** - Establish a safe controlled perimeter. Consider evacuation of area. Shut off sources of ignition. Request police help for control of area.

6. **ASSISTANCE** - Request any additional assistance required - manpower, equipment.

7. **FOAM** - Blanket contained spill with 3% foam to restrict spread of flammable vapours.

8. **APPARATUS** - Leave apparatus 23m (75 feet) upwind. Hand buck lines as required.

9. **CONTAINMENT SUPERVISOR** - Have Dispatch contact Oil Company involved to request containment supervisor for help in containment, recovery and disposal of spill.

10. **REQUIRED EXPERTISE** - Request additional agencies - Sewer, Engineering, Gas Co. (for vapour detectors), others.

KEEP DISPATCH INFORMED AT ALL TIMES

ACTION IF BURNING

1. **RESCUE** - Must be made quickly, and on foot, straight streams to flush spill away from rescue area. Fog streams to protect personnel.

2. **SHUT OFF FLOW IF POSSIBLE** (Driver's knowledge and assistance should be utilized).

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3. **CONTAINMENT** - Contain spill by any means possible - dikes, earth, sand, salvage covers over sewer openings, etc.

4. **SET UP TEMPORARY COMMAND POST UPWIND** (until relieved by senior officer)

5. **PERIMETER** - Establish a safe controlled perimeter. Consider evacuation of area. Shut off sources ignition. Request police help for control of area.

6. **ASSISTANCE** - Request any additional assistance required - manpower, equipment.

7. **APPARATUS** - Leave 23m (75 feet) upwind. Hand buck lines as required.

8. **CONTAINMENT SUPERVISOR** - Have Dispatch contact Oil Company involved to request containment supervisor for help in containment, recovery and disposal of spill.

9. **REQUIRED EXPERTISE** - Request additional agencies - Sewer, Engineering, Gas Co. (for vapour detectors), others.

10. **EXTINGUISHMENT** - Use 3% A-FFF Foam or 3% Protein Foam or both.

    NOTE: If conditions are such that an immediate attack on the fire is required, additional supplies of foam should be requested as soon as possible.

11. **OVERHAUL** - Keep fog lines in position to protect personnel (heated petroleum products give off flammable vapours at faster rates. Re-ignition very possible).

KEEP DISPATCH INFORMED AT ALL TIMES

PORT COQUITLAM FIRE/RESCUE MANUAL OF PROCEDURES	March 31, 1993	Page 1 of 1	Procedure #525
	HAZARDOUS MATERIALS		

1. **HAZARDOUS MATERIAL INCIDENTS - REPORTING**

   When responding to an emergency scene where hazardous materials are involved, the senior officer at the scene will immediately notify Dispatch of the nature and severity of the situation. In all cases, other than a minor incident, Dispatch will immediately notify the Fire Chief and the Deputy Chief.

2. An FD18 Exposure Report will be filled out by any member involved in a Haz-Mat Incident.

   This form will be forwarded to the Administration Office for filing.

PORT COQUITLAM FIRE/RESCUE MANUAL OF PROCEDURES	December 30, 1991	Page 1 of 10	Procedure #730
	RESCUE & SAFETY		

1. **PROCEDURES**

a) Medical Emergency Service Alarm (MESA) equipped fire apparatus units and Rescue and Safety Units will respond to MESA calls as directed by Dispatch.

b) When fire apparatus units respond to a Medical Emergency Service Alarm, members must wear helmets; service belts are not required. Protective head gear shall be worn at all times when members are exposed to hazard of head injury. It is the duty of the Officer in charge of the scene to ensure protective head gear is worn by each member who is exposed to such hazard.

c) When Medical Emergency Service equipped fire apparatus units respond to a Medical Emergency Service Alarm, Fire Dispatch will state Rescue & Safety Unit availability.

d) On arrival at the scene of a MESA call and after a proper assessment, the Officer in charge of a MESA equipped fire apparatus unit will notify Dispatch of the following:

1. Rescue Unit and/or ambulance and/or A.L.S. team are required. They will respond Code 3, unless otherwise directed.

2. The above units are not required and should be cancelled.

e) Drivers unless otherwise required, should remain with their apparatus. Rescue Companies on MESA calls where sight control of apparatus is lost, will turn off motor, emergency lights and headlights. Four-way flashers will be placed in operation and all doors will be locked.

f) A responding Rescue Unit <u>will not</u> be cancelled by a first-in Fire Company until the services of the Fire Company are no longer required.

g) When Rescue Units have only one Fire Fighter available for MESA services, Dispatch must be notified.

h) A.L.S. response will be requested immediately when either the first-in-company or Fire Dispatch receive information any of the following patient conditions are indicated:

1. Suspected myocardial infarction (heart attack)
2. Cardiac arrest

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3. Severe blood loss
4. Severe trauma (shock)
5. Respiratory failure
6. Unconsciousness

Dispatch will inform responding companies if A.L.S. is responding.

i) When a Fire Department member accompanies an E.H.S. unit with a patient to one of the surrounding municipal hospitals and encounters any difficulty in obtaining transportation back to their hall, they will immediately telephone Dispatch and request a taxi be sent to return the member to their Hall. Headquarters will arrange payment to the taxi companies.

2. **RESPONSIBILITY - PORT COQUITLAM FIRE DEPARTMENT AND E.H.S.**

a) Fire Departments will be responsible for rescue and safety. They are generally responsible for the accident scene. They are responsible to provide first response patient care until the arrival of an Ambulance.

(In the above paragraph the term "generally responsible" is used to cover situations where a law enforcement agency, Canada Customs etc., may be in charge of the scene).

b) The E.H.S.C. Emergency Medical Assistants will be responsible for patient care and treatment upon arrival. Where treatment has been initiated prior to the arrival of the Ambulance, all information pertinent to the patient's condition (history), and treatment, will be passed on to the EMA's. If further treatment is required, it will be done by the EMA's or under their direction. E.H.S. treatment and transportation should not be delayed due to a need of Fire Personnel to obtain patient information. If information is required, it will be provided by E.H.S.C. as soon as possible upon the completion of the response.

c) As extrication may involve both patient care and rescue, both services will work together to provide the optimum of patient care.

d) Past history has confirmed the fact, the fewer persons involved with initial patient contact, the better. Therefore, under normal circumstances, the Port Coquitlam Fire Department will have an Officer on site to gather information, deal with relative etc., and control the scene while two members render patient treatment. When a Fire Company is relieved by a Rescue-Safety Company, the change should be done as quickly and as smoothly as possible.

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e) Every effort will be made to ensure the clear access of Ambulance Crews to the patient at all times.

f) Yielding to Other Emergency Vehicles

To promote the expedient arrival of an Ambulance to medical calls, fire vehicles should yield the right of way to Ambulances as required.

(There have been incidences where slow moving Fire Apparatus responding Code 3 to a call have prevented ambulances from passing. In one such case the Ambulance was proceeding Code 3 with a critical patient enroute to hospital. Fire Apparatus Drivers should, if they become aware that an Ambulance is overtaking them, allow the Ambulance to pass. The Ambulance should wait to receive an indication from the fire apparatus driver that he is allowing the Ambulance to pass. Both Ambulance and fire apparatus shall comply with the Motor Vehicle code re Emergency Vehicle Operations.)

g) Receipt of Medical Calls from Other than E.H.S.

Dispatch will respond the required Department apparatus, then immediately relay the call for medical assistance to the Emergency Health Services Dispatch Centre. (This will ensure that the concept of "Layering" is maintained)

The calling party's telephone number and all information as to the patient's condition will be relayed.

3. INTER-SERVICE COMPLAINTS

To maintain a good working relationship between the two services, it is essential to establish good lines of communication, and to deal with any inter-service problems rapidly, fairly and effectively.

Any problems/complaints arising between the Fire Department Companies and regular Emergency Health Service personnel should be well documented by Fire Department Officers and a report submitted to the Chief's Office.

4. RESPONSIBILITY - PORT COQUITLAM FIRE DEPARTMENT - R.C.M.P.

a) When the On-Scene Fire Officer requests a Police Constable to attend a M.V.A. a reason will be given e.g. injuries, traffic control, suspected impairment etc.

The accident scene shall be secured, if possible, but should physical evidence have to be moved, i.e. patient's position,

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pieces of metal, mounds of dirt at point of impact, shoes, purses, etc. then the area will be marked by yellow chalk.

Sweeping or washing of streets will not be commenced until the arrival of the Police. If any tow-trucks are required, they shall be requested by the Police Constable.

b) It is the responsibility of the Police to conduct an investigation when Fire Department members respond to incidents involving one of the following categories:

1. Sudden death
2. Suicide or attempted suicide
3. Drug or pill overdose.
4. Suspected foul play.
5. Evidence of a criminal offence.

In order for the investigation to be unhampered, it is mandatory to preserve the area in its original state.

All officers will comply with the following procedures:

1. The Police Department will be notified immediately.

2. The physical makeup of the scene shall be secured.

3. If the movement of a patient, furniture or other object is necessary to permit proper patient assessment, mark the original position of the item.

4. A search for medical information of the patient will be restricted to a body search (medic alert tags, cards, etc.)

5. Officers at all times will proceed with the necessary procedures to perform life-saving functions.

6. Department Officers in charge of the scene will allow only a minimum number of authorized personnel to enter the area and will hand over control of the area only to a member of the Police Department.

7. Officers may put apparatus in the standby mode at the scene while waiting for the arrival of a Police Officer. If it is necessary to respond to another alarm, the Officer will leave one member in charge of the area.

8. Officers will enter a comprehensive report of the incident in the Hall Daily Journal and submit the appropriate MESA Reports.

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5. **INDUSTRIAL MESA SITES**

a) Keep the accident site as close to original as possible. (No clean up or altering of scene).

b) If the Patient is removed before a W.C.B. officer arrives, identify patient location.

The notifying of W.C.B. and steps (a) and (b) above are a must when the MESA site involves City workers or properties.

Cave-ins on City Streets - Rescue Operation - MESA Rescue

c) When the Fire Department is called to such an incident, the Officer in charge of the first-in company will immediately provide Dispatch with as much pertinent information as possible relative to the nature of the cave-in.

d) Fire Dispatch will in turn notify the City Yards so the Engineering Department may dispatch suitable equipment if required to assist in the rescue. In addition, an Engineering Department Supervisor and/or Superintendent will attend.

6. **EXTERNAL CARDIAC MASSAGE**

If the application of external cardiac massage is indicated, Fire Dispatch must be notified re: patients age and sex. All further response by others to this alarm will be Code 3.

7. **COMMUNICABLE DISEASES**

a) General

It is the recommendation of the Director of Occupational Health that the following procedures be taken in regards to protection of Fire Fighters coming into contact with acute infectious diseases, known or otherwise. All members should keep their immunization status up to date. All members should use where necessary, the disposable face masks, gloves and eye goggles that are carried with the first aid equipment.

b) Personal Care

1) If you have open wounds on hands, arms or face, DO NOT involve yourself with patient treatment if there is any possibility of coming in contact with patient body fluids.

2) If you do not have open wounds on hands, arms or face and there is a possibility of contact with patient body fluids - WEAR DISPOSABLE GLOVES.

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3) Extraordinary care must be taken to avoid incurring accidental wounds from sharp objects (needles, razor blades, broken glass etc.) that are contaminated by patient body fluids.

4) As soon as possible after patient treatment, wash up with warm water and soap. This may be done at the address you attended or if at an M.V.A. etc., use soap and water carried on the apparatus.

5) On return to quarters immediately have a second wash up with soap and warm water.

c) Contaminated Equipment

1) At the scene, isolate contaminated equipment and dressing in plastic garbage bags. (Garbage bags must be kept on apparatus at all times).

2) As with all department decontamination procedures, wear disposable gloves during wash up of equipment.

3) On return to quarters, contaminated dressing, airways, O.T.U. face masks and gloves will be secured in a plastic garbage bag. The bag will then be tagged with the following information:

i) Contaminated Equipment
ii) List of contents
iii) Hall of origin

The Rescue will then be notified for pickup and disposal of same.

4) Contaminated pulmonator bags, face pieces, valves etc., will be disassembled, washed in a warm water and bleach solution and thoroughly rinsed.,

Solution = 1 part bleach to 10 parts water.

5) Contaminated O.T.U. cases, cylinders and regulators will be flushed with a warm water and bleach solution. DO NOT wash cylinder and regulator separately, keep as a unit so solution does not enter orifices.

6) Contamination of Turnout Clothing

Minor Contamination

Clean area of contamination by washing area with a warm solution of bleach and water. (1 part bleach to 10 parts water). Flush area with copious amounts of warm water t

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ensure there is no bleach residue to harm garment material.

Gross Contamination

Where gross contamination would require the garment to be completely washed, the affected garments will be placed in plastic bags and tagged with the member's name and number and forwarded to the Deputy Chief. The Officer in charge will immediately contact the Deputy Chief to arrange for spare turnout clothing to be issued.

When garments have been laundered, the cleaners will return them to the individual. The "loaners" shall be returned to storage.

As with the handling of all contaminates, ensure proper protection is worn.

d) Exposure to Tuberculosis

In cases of exposure to active open cases of tuberculosis, the following procedures will be follows:

1) Record the date, time, place, etc., of exposure, together with contact's name and address.

2) If there is any doubt as to whether or not a case is infectious, contact the Deputy Chief. If the disease is communicable, the Deputy Chief will notify the Crews.

3) If there is no doubt or the information available indicates that the disease is communicable then the member(s) will report as soon as possible to the Doctor.

It should be understood by all personnel that exposure to active cases of tuberculosis only, (whether or not they are receiving treatment) does not necessarily constitute a health hazard. The case must also be open, in other words, the patient must be coughing up infected matter and the mere fact that they are, or have been, under treatment for tuberculosis does not necessarily indicate this.

e) Reporting Possible Exposure to a Communicable Disease

In all cases where Department members come in contact with a patient suspected of having a Communicable Disease, the following procedures will be complied with:

1. Notify the Administration Office as soon as possible.

2. Record the incident in the Hall Journal.

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3. Submit a special report to the Fire Chief.

4. Each member will submit an FD 18 (Member's Report of Hazardous Material or Disease Exposure) for attachment to their permanent personnel file in the Administration Office.

The following information will be required

1. Date, time and place of exposure.

2. Patient's name, address, birthdate.

3. Type of disease suspected.

4. Doctor attending.

5. Disposition of patient.

6. Name, number, hall and shift of department members attending alarm.

During normal working hours, the Deputy Chief will contact the Safety Officer to investigate the incident, and to recommend medical procedures if required for the protection of department members involved. The Deputy Chief will be responsible for the completion of these procedures, and for the return of the members to their assigned halls.

After normal working hours, weekends, holidays etc.,

The Senior Hall Officer will contact the Staff Physician of the hospital involved to determine what medical procedures are recommended. The Officer will arrange to have these procedures completed prior to the members going off shift, or as an extension to the shift. Once the treatment has been completed, he will be responsible for the return of the members to their assigned halls. See M.O.P. 125 and 880. The Fire Chief or Deputy Fire Chief may be consulted for direction.

Where there is a delay in the notification of the possible exposure to a communicable disease, and where the medical assessment does not indicate urgency, the member involved will be treated on their return to duty.

Where immediate medical procedures are recommended, the members involved will be contacted at home and notified where to report for treatment.

Overtime or Call-Out under these circumstances may only be authorized by the Fire Chief or Deputy Chief. The members

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involved will receive remuneration as prescribed in the current working agreement covering call-out.

8. **REPORTS**

a) Rescue and Safety Alarm

All MESA alarms will be reported on the First Responder Form FD 3. As much detail as possible will be entered in the Daily Journal for future reference. The Journal must describe in full, the sequential application of all patient treatment.

b) Public Assistance Calls

Where a non-emergency request is received re assisting invalids, helping incapacitated people back to bed, etc., requiring only the response of a piece of apparatus and no ambulance or Rescue and Safety Company follow-up, the Fire Alarm Controller will log the incident as a MESA call. The Fire Officer will report the incident on a FD 3, First Responder Form.

c) Reporting - FD 3

The type of injury and treatment is used for statistical records. Care must be taken to fill out the First Responder Form as complete as possible. All information is to be recorded in the Journal.

The Workers' Compensation Board requires Forms 7A when Members of a Fire Department have been treated for injuries while in the course of their employment. Refer to Manual of Procedure 880-4.

9. **SPECIAL EQUIPMENT**

a) Power Rescue Tools are carried on the Rescue and Safety Companies. They are designed primarily for the extrication of victims of vehicle accidents, but their use is only limited to the resourcefulness of the operator. They are available to any Fire Company on an emergency basis where they can be of assistance for extrication of patients for vehicles or machinery, or for entry purposes through steel shutter doors, barred windows etc.

b) Finger Ring Cutters

Fire Department vehicles are equipped with proper ring cutters.

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10. CHEMICAL SUITS

The Department has 4 totally encapsulating chemical protection suits, which are sealed against gas or vapour entry. They are designed for use with Self Contained Breathing Apparatus and must be used only with Pressure Demand Masks.

These suits must be used in situations where gases or vapours hazardous upon skin contact are present or suspected. In situations where the actual substance of hazards are known the suit compatibility chart must be checked. If hazard substance is unknown, entry shall not be attempted.

The suits are maintained on the Rescue unit.

When an emergency situation arises that calls for the use of Chemical Suits, Fire Dispatch will respond all Port Coquitlam Units and a Chief Officer and the Chief Training Officer.

The Officer of the Rescue Unit will be responsible for maintaining a log of members' time in the Suit from the moment the Masks are donned. The timekeeper shall keep the members informed of their time, as it's possible they may be required to leave on short notice, depending on their location.

Decontamination personnel must be on scene before chemical suit personnel enter the hazardous zone.

Response Required

- The Rescue Unit - Truck 9-3
- Pump Company assigned for decontamination purpose only
- E.H.S.

11. EQUIPMENT FAILURE

Whenever an accident to a Fire Fighter occurs that is a result of failure of equipment in use by the member, the officer in charge shall immediately impound the equipment and remove it from service. Notify the Administration Office as soon as possible.

All information will be logged in the Journal.

12. REPAIRS TO R&S EQUIPMENT

1. All equipment requiring repairs will be reported to the Senior Fire Hall Officer on shift.

2. No repairs of any type are to be made to S.C.B.A. or oxygen therapy units, except by authorized personnel. (See M.O.P. 480)

THE RESPONDER™

LEVEL A TOTAL ENCAPSULATING SUIT
LEVEL B TOTAL ENCAPSULATING SUIT
COVERALLS
SPLASH HOODS

The new Life-Guard Responder is a patented limited use suit material which has been designed to offer a high degree of resistance to a broad range of chemicals.

- **Chemical Protection.** In independent laboratory testing (see test results), the Responder material showed no permeation breakthrough after eight hours of exposure to the ASTM F1001 chemical test battery. Responder is the first chemical suit material to accomplish this remarkable goal. Until Responder, no other suit material, either disposable or reusable, demonstrated this kind of broad based chemical holdout.

- **Suit Construction.** Responder suits are made from a multiple film and tough substrate composite material which is joined by durable sewn and heat sealed seams. This combination of strong material and durable seams gives Responder suits excellent physical strength.

- **Economical.** Although Responder suits are made from a very strong and chemically resistant material, they are limited use suits and are priced accordingly. This means that a suit is economical enough to be discarded when it becomes contaminated or shows signs of wear.

- **Comfortable Design.** Responder suits are designed for comfort and mobility. Key features include light weight, tapered shapes, easy-to-reach front zippers with double over-lapping storm flaps with hook and loop closure and roomy sleeves.

HAZMASTERS
ENVIRONMENTAL CONTROLS INC.
3131 Underhill Ave., Burnaby, B.C.
V5A 3C8

Life-Guard™

A Kappler Safety Group Company

Chemical Protection You Can Live With

P.O. Box 1039 - Guntersville, AL 35976
Call Toll Free 1-800-323-2533. In Alabama call 582-0011.
FAX 205-582-7327

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Key Features of Responder Encapsulating Suits

- Large view window (40 mil polished PVC-Level A; 30 mil polished PVC-Level B)
- Detachable Butyl gloves (Level A)
- Elastic wrists (Level B)
- Sewn and heat sealed seams
- Internal waist belt
- Roomy sleeves
- Sock boots with splash guards
- 48" zipper with double over-lapping storm flaps with hook and loop closures (air-tight zipper on Level A)
- Exhaust valves with covers (Level A)
- Vent ports with covers (Level B)

Key Features of Responder Coveralls

- Elastic wrists
- Sewn and heat sealed seams
- 26" zipper with double over-lapping storm flaps with hook and loop closures

Options

- FEP overlay lens—specify option # 8G
- Double sealed inside and outside seam—specify option # 8H

A number of additional options are also available. For more information, contact Life-Guard or your local Life-Guard distributor.

ASTM F1001 Chemical Test Battery Responder Fabric

CHEMICAL	CLASS	AVERAGE BREAKTHROUGH TIME (MINUTES)[1]	AVERAGE PERM. RATE[2] µg/cm2/min	SDL[3] (ppm)
Acetone	Ketone	>480	ND[4]	0.13
Acetonitrile	Nitrile	>480	ND	0.11
Carbon Disulfide	Organic Sulfur	>480	ND	1
Dichloromethane	Chlorinated Paraffin	>480	ND	0.16
Diethylamine	Amine	>480	ND	0.71
Dimethylformamide	Amide	>480	ND	1
Ethyl Acetate	Ester	>480	ND	0.1
n-Hexane	Saturated Hydrocarbon	>480	ND	0.06
Methanol	Primary Alcohol	>480	ND	0.53
Nitrobenzene	Nitro Compound	>480	ND	1
Sodium Hydroxide	Inorganic Base	>480	ND	0.2
Sulfuric Acid	Inorganic Mineral Acid	>480	ND	0.019
Tetrachloroethylene	Chlorinated Olefin	>480	ND	0.081
Tetrahydrofuran	Heterocyclic Ether	>480	ND	0.098
Toluene	Aromatic Hydrocarbon	>480	ND	0.031
GASES				
Ammonia	Basic Gas	>480	ND	0.088
1,3 Butadiene	Unsaturated Hydrocarbon Gas	>480	ND	0.066
Chlorine	Acid Gas	>480	ND	0.041
Ethylene Oxide	Heterocyclic Ether Gas	>480	ND	0.21
Hydrogen Chloride	Inorganic Acid Gas	>480	ND	0.056
Methyl Chloride	Chlorinated Hydrocarbon Gas	>480	ND	0.089

Physical Properties
(test measurements per ASTM D751-79)

Weight:	7.5 oz/yd²
Thickness:	27 mils
Flammability:	NFPA 702 Class 1 (Normal)
Mullen Burst:	174 psi
Grab Tensil-MD:	92 lbs.
XD:	93 lbs.
Elongation (%)-MD:	55%
XD:	44%
Tongue Tear (lbs.)-MD:	19.0 lbs.
XD:	19.1 lbs.

MD—Machine Direction XD—Cross Direction

[1]Average Breakthrough Time (minutes)—Average time between contact of chemical on outside of material surface and detection of chemical on inside surface.
[2]Average Permeation Rate (micrograms per square centimeter per minute)—Average rate at which a chemical permeates the material after breakthrough has occurred and steady-state conditions have been reached.
[3]SDL—System Detection Limit (parts per million)—A measure of the sensitivity of the permeation test method and equipment. It is recommended that the SDL value be no greater than 1.0 ppm.
[4]ND—None Detected—No breakthrough detected in the test period.

NOTE: These permeation tests were performed in accordance with ASTM standards by Radian Corporation. This data is derived from tests performed on material samples only, not finished garments.

WARNING: There are uses, environments and chemicals for which these garments are unsuitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all specified health standards.

CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

Ordering Information

Style	Color	Size	Description
41450	BU	SM-XXL	Level A Total Encapsulating Suit
41470	BU	SM-XXL	Level B Total Encapsulating Suit
41250	BU	SM-XXL	Coverall with Elastic Wrists and Ankles
41255	BU	SM-XXL	Coverall with Attached Hood, Elastic Wrists and Ankles
41750	BU	One Size	Splash Hood with Chest Coverage

2-89 Revision
10M289

HAZMASTERS
ENVIRONMENTAL CONTROLS INC
3131 Underhill Ave., Burnaby, B.C.
V5A 3C8

LIFE-GUARD
RESPONDER CHEMICAL SYNONYM LIST

Chemical permeation data is available (per ASTM F739) against 110 chemicals at this time. Many of these chemicals are known by more than one name. For this reason, the Life-Guard synonym list has been developed.

Where testing times are listed as >180, >240,or >480 minutes, the tests were terminated at those respective times with no measurable breakthrough.

The sources for the test data are TRI and Radian laboratories.

All tests were performed under laboratory conditions and not actual use conditions. The tests were performed on material samples, not garments.

There are uses, environments and chemicals for which Responder is not suitable. It is the responsibility of the user to review available data and verify that the garment is appropriate for the intended use and meets all health standards.

Definition of terms:

* This symbol before a number (*448, For example) means that breakthrough was detected in only one of three test cells. The "PR" that follows is for the permeation rate in that cell.

SDL= System Detection Limit (or MDL-Minimum Detection Limit) These terms describe the sensitivity of the analytical method used for quantitative measurement. This limit is determined prior to each individual permeation test by exposing the detection device to a minimum known quantity of the challenge chemical that produces a measurable signal from the device. SDLs and MDLs are typically expressed in parts per million (ppm) and should not be greater than 1 ppm for most tests or materials. Higher limits result in longer breakthrough times. Life-Guard requests that laboratories test our materials at <1 ppm, where that level is possible.

PR= Permeation Rate - The rate at which permeation occurs in weight of chemical per exposed unit area of material per unit time. Typically, rates are expressed as micrograms per square centimeter per minute. Rates may also be identified as maximum or steady state, depending on test length and whether equilibrium conditions are reached.

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CHEMICAL SYNONYM	CHEMICAL TESTED OR BREAKTHROUGH TIME IN MINS.	SYSTEM DETECTION LIMIT	PERMEATION RATE
Acetic Acid	>240	.32	ND
Acetic Ester	See Ethyl Acetate		
Acetic Ether	See Ethyl Acetate		
Acetone	>480	.13	ND
Acetonitrile (95%)	>480	.11	ND
Acetyl Chloride	>240	.01	ND
Acetylene Dichloride	See 1,2-Dichloroethylene		
Acraldehyde	See Acrolein		
Acrolein	>180	.03	ND
Acrylaldehyde	See Acrolein		
Acrylonitrile	>180	.11	ND
AFFF	>240	.10	ND
Allyl Aldehyde	See Acrolein		
Allyl Chloride	>180	.04	ND
Aminobenzene	See Aniline		
Aminoethane	See Ethylamine		
Ammonia Gas	>480	.088	ND
Ammonia (Liquid)	>480	.145	ND
Amyl Acetate	>480	.084	ND
Amylacetic Ester	See Amyl Acetate		
Aniline	>480	1.00	ND
Aniline Oil	See Aniline		
Aqua Fortis	See Nitric Acid		
Arsenic Hydride	See Arsine Gas		
Arsine Gas	>180	.78	ND
Azotic Acid	See Nitric Acid		
Banana Oil	See Amyl Acetate		
Benzene	>180	.038	ND
Benzonitrile	>480	.15	ND
Benzophenol	See Phenol		
Bivinyl	See 1,3-Butadiene		

CHEMICAL SYNONYM	CHEMICAL TESTED OR BREAKTHROUGH TIME IN MINS.	SYSTEM DETECTION LIMIT	PERMEATION RATE
Bromine Liquid	18	.39	533.3
Bromochloromethane	>180	.01	ND
Butadiene (1,3-)	>480	.066	ND
Butaldehyde	See Butyraldehyde		
Butanal (n-)	See Butyraldehyde		
Butanol (n-)	>480	.072	ND
Butanone (2-)	See Methyl Ethyl Ketone		
Butyl Ether	>480	.025	ND
Butylaldehyde (n-)	See Butyraldehyde		
Butylene Oxide (1,2-)	>240	.01	ND
Butyraldehyde	>480	.35	ND
Butyric Aldehyde	See Butyraldehyde		
Calcium Chloride (42% W/W)	>240	1.00	ND
Carbolic Acid	See Phenol		
Carbon Bisulfide	See Carbon Disulfide		
Carbon Disulfide	>480	1.00	ND
Caustic Soda	See Sodium Hydroxide (50 % w/w)		
Cellosolve Solvent	See 2-Ethoxyethanol		
Chlorine	>480	.041	ND
Chlorine Dioxide (5%)	>480	1.00	ND
Chlorobenzene	>480	.022	ND
Chlorobromomethane	See Bromochloromethane		
Chloroethane	See Vinyl Chloride		
Chloroethylene	See Vinyl Chloride		
Chloroform	>480	.097	ND
Chloromethane	See Methyl Chloride		
Chloropropylene Oxide	See Epichlorohydrin		
Cinnamene	See Styrene		
Cyanide Salt 45%	>480	.34	ND
Diamide Hydrate	See Hydrazine Hydrate		
Diamine	See Hydrazine		
Dibutyl Ether (n-)	See Butyl Ether		

CHEMICAL SYNONYM	CHEMICAL TESTED OR BREAKTHROUGH TIME IN MINS.	SYSTEM DETECTION LIMIT	PERMEATION RATE
Dichloracetylene	See 1,2-Dichloroethylene		
Dichloro-2-butene (1,4-) (85%)	>480	.3	ND
Dichloroethane	See Ethylene Dichloride		
Dichloroethane (1,2-)	See Ethylene Dichloride		
Dichloroethylene (1,2-)	>180	.01	ND
Dichloromethane	>480	.16	ND
Diethyl Ether	See Ethyl Ether		
Diethyl Oxide	See Ethyl Ether		
Diethylamine	>480	.71	ND
Dimethyl Acetamide	>480	26.00	ND
Dimethyl Sulfoxide	See Methyl Sulfoxide		
Dimethylbenzene	See Xylene		
Dimethylformamide	>480	1.00	ND
Dimethylhydrazine	>480	5.00	ND
Dimethylketone	See Acetone		
Dinitrogen Tetroxide	See Nitrogen Tetroxide		
Divinyl	See 1,3-Butadiene		
DMAC	See N,N-Dimethyl Acetamide		
DMF	See Dimethylformamide		
Dutch Oil	See Ethylene Dichloride		
Electrolyte Acid	See Sulfuric Acid		
Engraver's Acid	See Nitric Acid		
Epichlorohydrin	>180	.03	ND
Epoxybutane (1,2-)	See 1,2-Butylene Oxide		
Epoxyethane	See Ethylene Oxide		
Erythrene	See 1,3-Butadiene		
Ethanediol (1,2-)	See Ethylene Glycol		
Ethanoic Acid	See Acetic Acid		
Ethanoyl Chloride	See Acetyl Chloride		
Ether	See Ethyl Ether		
Ethoxyethanol (2-)	>480	.31	ND
Ethyl Acetate	>480	.1	ND

CHEMICAL SYNONYM	CHEMICAL TESTED OR BREAKTHROUGH TIME IN MINS.	SYSTEM DETECTION LIMIT	PERMEATION RATE
Ethyl Ether	>240	.01	ND
Ethyl Methacrylate	>240	.01	ND
Ethyl Methyl Ketone	See Methyl Ethyl Ketone		
Ethyl Oxide	See Ethyl Ether		
Ethyl Vinyl Ether	>180	.02	ND
Ethylamine (70% w/w)	>240	.02	ND
Ethylbenzene	>480	.019	ND
Ethylene Alcohol	See Ethylene Glycol		
Ethylene Chloride	See Ethylene Dichloride		
Ethylene Dichloride	>480	.053	ND
Ethylene Glycol	>240	.12	ND
Ethylene Glycol Monoethyl Ether	See 2-Ethoxyethanol		
Ethylene Oxide Gas	>480	.21	ND
Ethylene Oxide Liquid	>180	.083	ND
EVE	See Ethyl Vinyl Ether		
Fluorine (Tech)	>480	.014	ND
Formaldehyde (37% w/w)	>240	.37	ND
Formic Acid	>480	.011	ND
Formic Aldehyde	See Formaldehyde		
Formonitrile	See Hydrogen Cyanide		
Freon 113	>480	.059	ND
Freon TF	>180	.054	ND
Gasoline	>480	.056	ND
Glycol	See Ethylene Glycol		
Hexachlorobutadiene	>480	.5	ND
Hexamethylene Diisocyanate	>480	1.00	ND
Hexane (n-)	>480	.06	ND
Hexone	See Methyl Isobutyl Ketone		
HF	See Hydrogen Fluoride		
Hydrargyrum	See Mercury		
Hydrazine	>480	.051	ND
Hydrazine Hydrate	>240	.03	ND

CHEMICAL SYNONYM	CHEMICAL TESTED OR BREAKTHROUGH TIME IN MINS.	SYSTEM DETECTION LIMIT	PERMEATION RATE
Hydrobromic Acid (48%)	>480	.19	ND
Hydrochloric Acid (37%)	>240	.20	ND
Hydrocyanic Acid	See Hydrogen Cyanide		
Hydrofluoric Acid (49-51%)	>180	.025	ND
Hydrogen Carboxylic Acid	See Formic Acid		
Hydrogen Chloride	>480	.056	ND
Hydrogen Cyanide	>180	4.00	ND
Hydrogen Dioxide	See Hydrogen Peroxide		
Hydrogen Fluoride Gas	>180	.022	ND
Hydrogen Peroxide (70%)	>480	3.00	ND
Hydrogen Sulfate	See Sulfuric Acid		
Hydrogen Sulfide	>180	12.00	ND
Hydroxybenzene	See Phenol		
Isoprene	>180	.01	ND
Isopropylacetone	See Methyl Isobutyl Ketone		
Isopropylideneacetone	See Mesityl Oxide		
JP-4	>240	.01	ND
Lye	See Sodium Hydroxide (50.% w/w)		
MEK	See Methyl Ethyl Ketone		
Mercury	>480	.0003	ND
Mesityl Oxide	>480	.11	ND
Methanal	See Formaldehyde		
Methanethiol	See Methyl Mercaptan		
Methane-Carboxylic Acid	See Acetic Acid		
Methanoic Acid	See Formic Acid		
Methanol	>480	.53	ND
Methyl Alcohol	See Methanol		
Methyl Chloride	>480	.089	ND
Methyl Chloroform	See Trichloroethane		
Methyl Cyanide	See Acetonitrile		
Methyl Ethyl Ketone	>240	.01	ND
Methyl Isobutenyl Ketone	See Mesityl Oxide		

CHEMICAL SYNONYM	CHEMICAL TESTED OR BREAKTHROUGH TIME IN MINS.	SYSTEM DETECTION LIMIT	PERMEATION RATE
Methyl Isobutyl Ketone	>480	.048	ND
Methyl Isocyanate	>480	1.00	ND
Methyl Mercaptan	>480	.8	ND
Methyl Sulfoxide	>240	.01	ND
Methylbenzene	See Toluene		
Methylene Chloride	See Dichloromethane		
Methylene Chlorobromide	See Bromochloromethane		
Methylene Dichloride	See Dichloromethane		
Methyl-tert-Butyl Ether	See T-Butyl Methyl Ether		
Mineral Spirits	>480	1.00	ND
Monochlorobenzene	See Chlorobenzene		
Monochloromethane	See Methyl Chloride		
Monoethylamine	See Ethylamine		
MTBE	See T-Butyl Methyl Ether		
Naptha (Mineral Spirit Grade)	See Mineral Spirits		
Nitric Acid (70%)	>180	.07	ND
Nitric Acid-Red Fuming (90+%)	>180	.089	ND
Nitrobenzene	>480	1.00	ND
Nitrogen Tetroxide	220	.051	7
Nitromethane	>480	.31	ND
Octane	>480	.02	ND
Oil of Mirbane	See Nitrobenzene		
Organo-Tin Paint	>240	.03	ND
Oxirane	See Ethylene Oxide		
Oxymethylene	See Formaldehyde		
PCB	>480	.01	ND
Pear Oil	See Amyl Acetate		
Perchloroethylene	See Tetrachloroethylene		
Peroxide	See Hydrogen Peroxide		
Phenol (85%)	>480	.01	ND
Phenyl Chloride	See Chlorobenzene		
Phenyl Cyanide	See Benzonitrile		

CHEMICAL SYNONYM	CHEMICAL TESTED FOR BREAKTHROUGH TIME IN MINS.	SYSTEM DETECTION LIMIT	PERMEATION RATE
Phenylamine	See Aniline		
Phenylethane	See Ethylbenzene		
Phenylethylene	See Styrene		
Phenylic Acid	See Phenol		
Phenylmethane	See Toluene		
Polychlorinated Biphenyl	See PCB		
Propanone (2-)	See Acetone		
Propenal (2-)	See Acrolein		
Propenenitrile	See Acrylonitrile		
Propylene Oxide	>180	.03	ND
Prussic Acid	See Hydrogen Cyanide		
Pseudo Cumene (90%)	>480	.041	ND
Pyridine	>480	.23	ND
Quicksilver	See Mercury		
Sodium Cyanide	>180	10.00	ND
Sodium Hydrate	See Sodium Hydroxide		
Sodium Hydroxide	>480	.2	ND
Styrene	>180	.068	ND
Styrene Monomer	See Styrene		
Sulfur Dichloride (80%)	*448	.084	.33
Sulfur Dioxide	>480	.04	ND
Sulfuretted Hydrogen	See Hydrogen Sulfide		
Sulfuric Acid (95%)	>480	.019	ND
Sulfuric Ether	See Ethyl Ether		
Tetrachloroethylene	>480	.081	ND
Tetrahydrofuran	>480	.098	ND
Tetralone	>480	1.00	ND
Tetralone (1-)	See Tetralone		
THF	See Tetrahydrofuran		
Toluene	>480	.031	ND
Toluene Diisocyanate	>480	1.00	ND
Trichloroethane	>480	.099	ND

CHEMICAL SYNONYM	CHEMICAL TESTED OR BREAKTHROUGH TIME IN MINS.	SYSTEM DETECTION LIMIT	PERMEATION RATE
Trichloroethylene	>240	.01	ND
Trichloromethane	See Chloroform		
Triethylamine	>480	.13	ND
Trimethylbenzene (1,2,4-)	See Pseudo Cumene		
T-Butyl Methyl Ether	>180	.21	ND
Uns-Trimethylbenzene	See Pseudo Cumene		
Vinegar Naptha	See Ethyl Acetate		
Vinegar Acid	See Acetic Acid		
Vinyl Acetate	>180	.01	ND
Vinyl Chloride	>180	.022	ND
Vinyl Cyanide	See Acrylonitrile		
Vinyl Ethyl Ether	See Ethyl Vinyl Ether		
Vinylbenzene	See Styrene		
Vinylethylene	See 1,3-Butadiene		
Vinylidene Chloride	>180	.03	ND
White Caustic	See Sodium Hydroxide (50 % w/w)		
Wood Alcohol	See Methanol		
Xylenes(mixed)	>180	.036	ND

X-LARGE
8G

Inspection Log

Style # 41450 Serial # 11099

DATE	INSPECTED BY	REMARKS	AIR PRESSURE READING
4-6-90	Wanda	At Life Guard Factory	pass

DECONTAMINATION PROCEDURES

The full decontamination procedure outlined is for workers wearing Level A protection (with taped joints if necessary for convenience).

- fully encapsulating suit
- self contained breathing apparatus

STATION 1 - Equipment Drop

Place all equipment that is not in use or not to be used again right away in or on plastic drop cloths or containers expressly for this purpose. This will include tools, sampling devices, monitoring equipment, clipboards, radios, aprons, etc. At this site you will need:

- various containers
- plastic liners
- plastic dropcloths

This station does not require attendents present.

STATION 2 - Requires two to four men in suits and breathing apparatus present

Scrub with decon solution, detergent, or other appropriate solutions. Rinse off decon solution with water and repeat if necessary. Remove tape around boots and gloves and deposit in container with plastic liner. This station requires:

- rinse hose
- one rinse pool and decon solution
- two or three long handled, soft bristled brushes
- containers and liners

STATION 3 - Outer glove removal

Place in container with liner.

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STATION 4 - Suit and Boot wash

Encapsulating suit and boots must be washed thoroughly with long handled, soft bristle brush using decon solution. Repeat as necessary and rinse. This station requires:

- container with liner
- decon solution
- brushes
- hose for rinse
- 1 rinse pool

STATION 5

NOTE: At this time if worker is to change tanks and re-enter site, new gloves and boot liners, apron and air tank will be used.

Removing out of the area remove safety boots and place in container with liner. Remove encapsulating suit and hang up or lay on drop cloths. Care will be taken not to touch the inside of the suit or the man in the suit removing he/she. This station requires:

- [illegible]
- stool or chair
- container and liner
- drop cloths

STATION 6 - Self Contained Breathing Apparatus Removal

STATION 7 IF NECESSARY

Remove inner clothing and place in containers. This should be done as soon as possible as small amounts of contaminants might have been in contact between encapsulated suit and clothing.

Shower or hand wash all skin at this point. Put on clean clothing. Decon is complete.

DECON SOLUTION APPLICATION

HAZARD GROUP	DECON SOLUTION A	B	C	D	E
1	X				
2		X			
3		X			
4		X			
5	X		X		
6	X		X		
7			X		
8				X	
9					X
10	X	X			
11	X	X			

HAZARD GROUPS

1 - INORGANIC ACIDS, METAL PROCESSING WASTES

2 - HEAVY METALS (MERCURY, LEAD, CADIUM, ETC.)

3 - PESTICIDES, CHLORINATED PHENOLS, DIOXINS

4 - CYANIDES, AMMONIA, NON-ACIDIC INORGANIC WASTES

5 - SOLVENTS AND OTHER ORGANIC COMPOUNDS

6 - PCB'S AND PBB'S

7 - OILY, GREASY UNSPECIFIED WASTES NOT CONTAMINATED WITH PESTICIDES

8 - INORGANIC BASES, ALKALI AND CAUSTIC WASTES

9 - RADIOACTIVE MATERIALS

10 - ETIOLOGIC MATERIALS

11 - UNKNOWN CONTAMINANTS

GENERAL PURPOSE DECONTAMINATION SOLUTIONS

SOLUTION A: 5% SODIUM CARBONATE (Na_2CO_3)
5% TRISODIUM PHOSPHATE (Na_3PO_4)
FOUR POUNDS EACH TO TEN GALLONS WATER

SOLUTION B: 10% CALCIUM HYPOCHLORITE $Ca(C1O)_2$
EIGHT POUNDS TO TEN GALLONS WATER

SOLUTION C: 5% TRISODIUM PHOSPHATE (Na_3PO_4)
FOUR POUNDS TO TEN GALLONS WATER
CAN BE USED AS A RINSE NEUTRALIZER FOR SOLUTIONS A AND B

SOLUTION D: DILUTED HYDROCHLORIC ACID (HCl)
ONE PINT INTO TEN GALLONS WATER

SOLUTION E: DETERGENT AND WATER

PRODUCT IDENTIFIER ▸ SODIUM CARBONATE

SECTION 6 — TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY

SKIN CONTACT ☒ SKIN ABSORPTION ☐ EYE CONTACT ☒ INHALATION ☒ INGESTION ☒

EFFECTS OF ACUTE EXPOSURE TO PRODUCT: Irritant to skin and mucous membranes; severe irritant to eyes; Ingestion may cause nausea and gastrointestinal disturbances; may even be lethal.

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT: May cause dermatitis; possible blurred vision and necrosis of eyes; May cause perforation of nasal septum.

EXPOSURE LIMITS	IRRITANCY OF PRODUCT	SENSITIZATION TO PRODUCT	CARCINOGENICITY
N.AV.	Yes (skin, eyes and mucous membranes)	Yes (dermatitis)	N.AV.
TERATOGENICITY	**REPRODUCTIVE TOXICITY**	**MUTAGENICITY**	**SYNERGISTIC PRODUCTS**
N.AV.	N.AV.	N.AV.	N.AV.

SECTION 7 — PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: See below

GLOVES (SPECIFY)	RESPIRATOR (SPECIFY)	EYE (SPECIFY)
Yes (rubber)	Type 'C' supplied air respirator with full facepiece.	Safety goggles, face shield
FOOTWEAR (SPECIFY)	**CLOTHING (SPECIFY)**	**OTHER (SPECIFY)**
No	Coveralls or lab coat	Eyewash equipment nearby

ENGINEERING CONTROLS (SPECIFY, EG VENTILATION, ENCLOSED PROCESS): Local exhaust

LEAK AND SPILL PROCEDURE: Sweep or shovel up without raising dust.

WASTE DISPOSAL: According to local, provincial and federal regulations.

HANDLING PROCEDURES AND EQUIPMENT: Avoid contact and inhalation.

STORAGE REQUIREMENTS: Room temperature

SPECIAL SHIPPING INFORMATION: No special precaurions

SECTION 8 — FIRST AID MEASURES

SPECIFIC MEASURES

SKIN - Wash with water for 15 minutes.

EYES - Wash with copious amounts of water for 15 minutes, occasionally lifting upper and lower eyelids.

INHALATION - Remove to fresh air. If breathing has stopped, give artificial respiration. Keep person warm and at rest.

INGESTION: - Do NOT use gastric lavage or emesis. Give at least two large glasses of water or milk and allow vomiting to occur.

IF SKIN IRRITATION PERSISTS AND IN ALL OTHER CASES, GET IMMEDIATE MEDICAL ATTENTION.

SECTION 9 — PREPARATION DATE OF MSDS

PREPARED BY (GROUP, DEPARTMENT, ETC)	PHONE NUMBER	DATE
Control Dept.	(604) 324-0907	Nov. 1, 1988

JUL 2 0 1994

PRODUCT IDENTIFIER ▶ TRISODIUM PHOSPHATE DODECAHYDRATE

SECTION 6 — TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY

SKIN CONTACT ☒ SKIN ABSORPTION ☐ EYE CONTACT ☒ INHALATION ☒ INGESTION ☒

EFFECTS OF ACUTE EXPOSURE TO PRODUCT: Irritant to skin, eyes and mucous membranes

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT: Possible dermatitis; possible eye damage

EXPOSURE LIMITS	IRRITANCY OF PRODUCT	SENSITIZATION TO PRODUCT	CARCINOGENICITY
N.AV.	Yes (skin, eyes and mucous membranes	Possible dermatitis	No
TERATOGENICITY	**REPRODUCTIVE TOXICITY**	**MUTAGENICITY**	**SYNERGISTIC PRODUCTS**
N.AV.	N.AV.	N.AV.	N.AV.

SECTION 7 — PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: See below

GLOVES (SPECIFY)	RESPIRATOR (SPECIFY)	EYE (SPECIFY)
Yes (rubber)	Dust mask with particulate filters	Safety goggles, face shield
FOOTWEAR (SPECIFY)	**CLOTHING (SPECIFY)**	**OTHER (SPECIFY)**
No	Coveralls or lab coat	Eyewash equipment nearby

ENGINEERING CONTROLS (SPECIFY, EG VENTILATION, ENCLOSED PROCESS): Local exhaust

LEAK AND SPILL PROCEDURE: Sweep or shovel up without raising dust

WASTE DISPOSAL: According to local, provincial and federal regulations.

HANDLING PROCEDURES AND EQUIPMENT: Avoid contact and inhalation.

STORAGE REQUIREMENTS: Room temperature

SPECIAL SHIPPING INFORMATION: ORM-E

SECTION 8 — FIRST AID MEASURES

SPECIFIC MEASURES

SKIN - Wash with water for 15 minutes.

EYES - Wash well with water for 15 minutes, occasionally lifting upper and lower eyelids.

INHALATION - Remove to fresh air. If not breathing, give artificial respiration. Keep person warm and at rest.

INGESTION - Do not induce vomiting. Treat symptomatically and supportively. If vomiting does occur, keep head lower than hips to prevent aspiration.

IF SKIN IRRITATION PERSISTS AND IN ALL OTHER CASES, GET IMMEDIATE MEDICAL ATTENTION.

SECTION 9 — PREPARATION DATE OF MSDS

PREPARED BY (GROUP, DEPARTMENT, ETC)	PHONE NUMBER	DATE
Control Dept.	(604) 324-0907	Nov. 1, 19[illegible]

MATERIAL SAFETY DATA SHEET

SECTION 1 — PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER: SODIUM CARBONATE			PRODUCT IDENTIFICATION NUMBER (PIN): N.AV.
PRODUCT USE: Alkalizing agent			
MANUFACTURER'S NAME: N.AV.		SUPPLIER'S NAME: SEL-WIN CHEMICALS LTD.	
STREET ADDRESS: N.AV.		STREET ADDRESS: 70-942 S.W.MARINE DR.	
CITY: N.AV.	PROVINCE: N.AV.	CITY: VANCOUVER	PROVINCE: B.C.
POSTAL CODE: N.AV.	EMERGENCY TELEPHONE NO: N.AV.	POSTAL CODE: V6P 5Z2	EMERGENCY TELEPHONE NO: 800-424-9300

SECTION 2 — HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	CAS NUMBER	LD_{50} OF INGREDIENT (SPECIFY SPECIES AND ROUTE)	LC_{50} OF INGREDIENT (SPECIFY SPECIES
Sodium carbonate	100	497-19-8	RAT Oral: 4000 mg/kg	N.AV.

SECTION 3 — PHYSICAL DATA

PHYSICAL STATE: Solid	ODOUR AND APPEARANCE: Odorless white crystals or powder			ODOUR THRESHOLD (ppm): N.AV.
VAPOUR PRESSURE (mm Hg): N.AV.	VAPOUR DENSITY (AIR=1): N.AV.	EVAPORATION RATE: N.AV.	BOILING POINT (°C): Decomposes	FREEZING POINT (°C): 851
pH: Aq.sol.-ca 11.6	SPECIFIC GRAVITY: 2.536	COEFF. WATER/OIL DIST: N.AV.		

SECTION 4 — FIRE AND EXPLOSION DATA

FLAMMABILITY: YES ☐ NO ☒ IF YES, UNDER WHICH CONDITIONS?			
MEANS OF EXTINCTION: Water spray, CO_2, dry chemicals			
FLASHPOINT (°C) AND METHOD: N.AV.	UPPER FLAMMABLE LIMIT (% BY VOLUME): N.AV.	LOWER FLAMMABLE LIMIT (% BY VOLUME): N.AV.	
AUTOIGNITION TEMPERATURE (°C): N.AV.	HAZARDOUS COMBUSTION PRODUCTS: Possible sodium oxide and carbon dioxide		
EXPLOSION DATA: N.AV.	SENSITIVITY TO IMPACT	SENSITIVITY TO STATIC DISCHARGE: N.AV.	

SECTION 5 — REACTIVITY DATA

CHEMICAL STABILITY: YES ☒ NO ☐ IF NO, UNDER WHICH CONDITIONS?	
INCOMPATIBILITY WITH OTHER SUBSTANCES: YES ☒ NO ☐ IF SO, WHICH ONES?	Acids; aluminum; Lithium; Fluorine; zinc; phosphorus pentoxide
REACTIVITY, AND UNDER WHAT CONDITIONS: N.AV.	
HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes of sodium oxide and carbon dioxide	

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MATERIAL SAFETY DATA SHEET

SECTION 1 — PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER	TRISODIUM PHOSPHATE DODECAHYDRATE	PRODUCT IDENTIFICATION NUMBER (PIN)	NA-91
PRODUCT USES	In detergent mixtures		
MANUFACTURER'S NAME	N.AV.	SUPPLIER'S NAME	SEL-WIN CHEMICALS LTD.
STREET ADDRESS	N.AV.	STREET ADDRESS	70-942 S.W.MARINE DR.
CITY / PROVINCE	N.AV. / N.AV.	CITY / PROVINCE	VANCOUVER / B.C.
POSTAL CODE / EMERGENCY TELEPHONE NO	N.AV. / N.AV.	POSTAL CODE / EMERGENCY TELEPHONE NO	V6P 5Z2 / 800-424-9300

SECTION 2 — HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	CAS NUMBER	LD_{50} OF INGREDIENT (SPECIFY SPECIES AND ROUTE)	LC_{50} OF INGREDIENT (SPECIFY SPECIES)
Trisodium phosphate dedecahydrate	100	10101-89-0	For anhydrous substance: RAT Oral: 4150 mg/kg.	N.AV.

SECTION 3 — PHYSICAL DATA

PHYSICAL STATE: Solid	ODOUR AND APPEARANCE: White odorless powder or granules			ODOUR THRESHOLD (ppm): N.AV.
VAPOUR PRESSURE (mm Hg): N.AV.	VAPOUR DENSITY (AIR=1): N.AV.	EVAPORATION RATE: N.AV.	BOILING POINT (°C): N.AV.	FREEZING POINT (°C): About 75
pH: 0.1% sol.= 11.5	SPECIFIC GRAVITY: 1.6	COEFF. WATER/OIL DIST: N.AV.		

SECTION 4 — FIRE AND EXPLOSION DATA

FLAMMABILITY: YES ☐ NO ☒ IF YES, UNDER WHICH CONDITIONS?

MEANS OF EXTINCTION: Water spray, CO_2, dry chemical

FLASHPOINT (°C) AND METHOD: N.AV.	UPPER FLAMMABLE LIMIT (% BY VOLUME): N.AV.	LOWER FLAMMABLE LIMIT (% BY VOLUME): N.AV.
AUTOIGNITION TEMPERATURE (°C): N.AV.	HAZARDOUS COMBUSTION PRODUCTS: Possible oxides of sodium and phosphorus	
EXPLOSION DATA — SENSITIVITY TO IMPACT: N.AV.	SENSITIVITY TO STATIC DISCHARGE: N.AV.	

SECTION 5 — REACTIVITY DATA

CHEMICAL STABILITY: YES ☒ NO ☐ IF NO, UNDER WHICH CONDITIONS?

INCOMPATIBILITY WITH OTHER SUBSTANCES: YES ☒ NO ☐ IF SO, WHICH ONES? Aluminum ; Acids

REACTIVITY, AND UNDER WHAT CONDITIONS: N.AV.

HAZARDOUS DECOMPOSITION PRODUCTS: Possible oxides of sodium and phosphorus

Sel-Win Chemicals Ltd.

INVOICE

70-942 S.W. MARINE DR., VANCOUVER, B.C. V6P 5Z2
Phone (604) 324-0907

№ 25269

SOLD TO PORT COQUITLAM FIRE DEPT.
2352 Mc ALLISTER AVE
PORT COQUITLAM, B.C.
V3C 2B1

SHIPPED TO

PHONE: 941-5411 LOC: 278- BILL McFARLANE

DATE	FED. LICENCE NO.	PROV. LICENCE NO.	YOUR ORDER NO.	TERMS	VIA
OCT. 17/89			L30785	NET 30 DAYS	PICK UP

BACK ORDERED	QTY. SHIPPED	DESCRIPTION	LOT NUMBER	UNIT PRICE	AMOUNT	
	1 x 2 K	SODIUM CARBONATE	7702		28.50	T M
	2 x 2 K	TRISODIUM PHOSPHATE	7873	$18.50/2K	37.00	T M
	2 x 5LBS	CALCIUM HYPOCHLORITE	8307		111.00	T M
					176.50	
		6% P.S.T.			10.59	
					187.09	

No claims allowed unless made within 7 days after receipt of merchandise.
Unauthorized returns of merchandise will not be accepted.
Interest of 1.75% per month will be charged on overdue accounts.

To receive credit, dated products must be returned 3 months prior to expiry date.
Restocking charges apply to all authorized returns.

JUL 20 1994

ENTRY SUIT

Series 1000

-aluminized outer surface

Fire entry
d into ambient temperatures
up to 1500° F

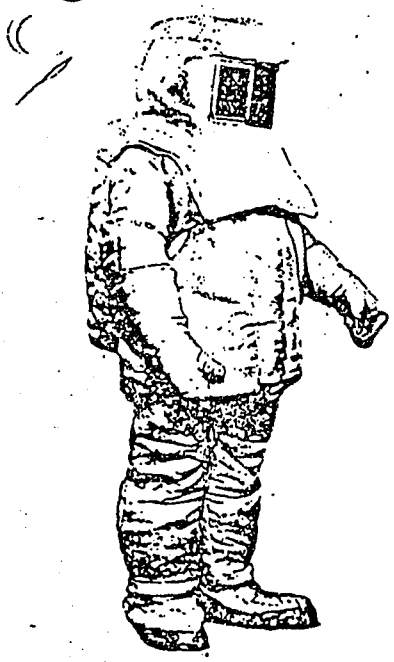
Features

Separate hood with built-in
industrial hard cap
8"x6" gold, heat-reflective
dual layer facepiece;
breathing apparatus accommodation.
Knee high boots, gauntlet style mitts.
Trunk style carrying case.

Applications

Industrial and commercial fire fighting
for entry into total flame
for short periods of time.

Entry into furnaces, kilns or ovens
up to 1500° F for short
periods of time



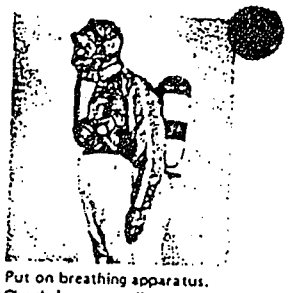
Fyrepel™
QUARTER-CENTURY OF PROTECTION

BOX 518
NEWARK, OHIO 43055
614/344-0391

Use & Care

Put on pants and adjust
suspenders to proper fit.

Raise pant legs
and put on boots,
securing all fasteners and straps
for a tight comfortable fit.
Secure pant legs over top
of boots with retainer straps.



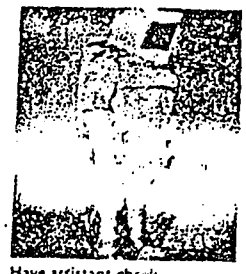
Put on breathing apparatus.
Check for proper fit
and operation.

Put on coat.
(breathing apparatus fits
into accommodation provided)

Tie baffle strap around hips
and snap both inner
and outer set of snaps.

Put on hood
and pull keeper straps
under arms,
secure to front of hood.

Put on mitts
over sleeves for tight fit.

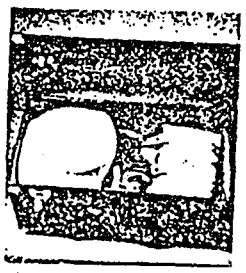


Have assistant check
for snug tight fit.
Make sure no straps
or ties protrude.

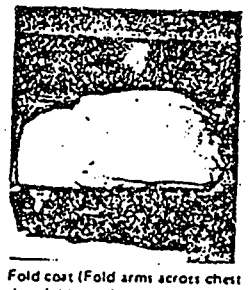
Cleaning & Storage

If chemicals or foams have been used wash thoroughly to prevent damage to the surface.
Allow suit to dry thoroughly. If greases or oils are on the surface wash with a mild soap
or Stoddard Solvent. Be sure to rinse the soap or solvent and allow to dry before storing.

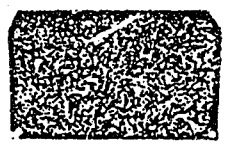
Examine for rips or tears, make prompt repairs. Fyrepel maintains a repair service.



After use, suit should be cleaned
and dried before packing.
Place hood and boots in box
as shown. Place mitts to rear
of box along side of hood.



Fold coat (Fold arms across chest
then fold coat in half so that
top and bottom are even).
and place on top of boots.
Fold pants in half and place
on top of hood.



Compact by closing lid
and securing. Make certain
that no part of the suit
will be caught in the lid.
Clothing efficiency will not
be affected by tight pac[illegible]