

VINYL INSTITUTE HEALTH, SAFETY, & ENVIRONMENT COMMITTEE

The Marriott City Center Hotel
100 West Trade Street
Charlotte, North Carolina 28202

Thursday/Friday
July 17-18, 1986
8:00 a.m.

Attendees:

W. C. Holbrook, Chairman	- BFGoodrich
A. S. Baker	- Dow Chemical
J. T. Barr	- Air Products & Chemicals
N. M. Blackman	- Borden Chemical
F. E. Borrelli	- Georgia Gulf
C. A. Gellner	- CertainTeed
J. Kachtick	- Occidental Chemical (7/18 only)
J. A. King	- Occidental Chemical
J. Ledvina	- Vista Chemical
O. T. Sandberg	- Borden Chemical (7/18 only)
H. Waltemate	- BFGoodrich
S. L. White	- PPG Industries
J. E. Wyche III	- PPG Industries
E. J. Zeringue	- Georgia Gulf
P. de la Cruz	- Keller and Heckman
R. T. Gottesman	- Vinyl Institute

1. Self-Introduction and Approval of Minutes.

Following self-introductions, the minutes of the May 27th meeting of the Committee held in Washington were distributed. Later Mr. Barr moved, Mr. Blackman seconded, and the minutes were approved as received.

2. Discussion on EDC Ground Water Considerations.

Those company representatives having experience with underground water contamination from EDC discussed their own situations. Generally, in the first RCRA ground water monitoring, contamination by EDC was found. In several situations, the underground liquids were mined, the organics separated and the water layers steam-stripped before being discharged through a permitted NPDES outfall. Neither the states of Louisiana or Texas have issued regulations, but are getting reports on what is being carried out.

There has been no determination of what constitutes sufficient clean-up, i.e., "how clean is clean", but in a number of cases, the company representatives indicated that they expected to continue the pumping and steam-stripping of water for some time to come.

3. Discussion of Inadvertent PCB Generation in EDC/VCM Manufacture.

In a round robin discussion, company representatives mutually informed each other regarding their situations on the inadvertent generation of PCB. Mr. Ledvina of Vista indicated that they had found PCB in the heavy ends of their VCM plant. They have carried out registration under TSCA as an inadvertent generator. Mr. Ledvina indicated that they had not found any PCB's in any wastewater streams and that water from the incinerator is now being analyzed.

Mr. Baker of Dow indicated in their Louisiana and Texas operations involving direct chlorination, they are finding PCB's in the heavy ends which are mixtures of heavy chlorinated materials and vinyl tars. They also have one stand alone EDC plant where they have found PCB's. Heavy ends are disposed of by incineration under a non-commercial permit. Dow has registered all of its three plants as PCB generators although Mr. Baker indicated that oxy-chlorination does not appear to generate PCB's. They are currently using GC/Mass Spec for analysis, but they are trying to develop a new method due to noise and interference with the GC/Mass Spec procedures. Materials which are extracted in the analysis other than PCB lead to analytical interferences.

Mr. Holbrook reported that one monomer plant is registered as a PCB generator with EPA. At a second Goodrich monomer plant they are not registered under TSCA. PCB's are found in the heavy ends from EDC cracking. Goodrich has not found PCB generation in the direct chlorination process. Analyses are done in-house by GC/Mass Spec.

Mr. White of PPG reported that they have found inadvertent PCB formation in the cracking and in the heavy chlorinated materials in the direct chlorination process. They have not found PCB's in other hydrocarbon chlorination processes, but do find them when co-mingling with vinyl chloride monomer process streams. PPG is on a track to get a PCB permit for their incinerators. They are registered as an inadvertent generator because of the large water flow volume being discharged from the incinerators where, because of the detection limits, they would exceed 10 pounds per year. PPG incinerates their heavy ends at a temperature of 1800-2200 degrees F. PPG is interested in sharing analytical techniques and methods with the other member companies.

Mr. Zeringue of Georgia Gulf indicated that they had sampled at 3 or 4 places in their Plaquemine operation and samples were sent to TMS in Indianapolis for Mass Spec and to one other laboratory. Analytical results indicated PCB's in the direct chlorination, but nothing downstream. They believe that PCB's are concentrating in the reactor. Georgia Gulf is registered as an inadvertent PCB generator under TSCA. They concentrate the PCB materials and they dispose of the materials off site. Both Georgia Gulf and Dow indicate that they have had TSCA inspections in relation to their filings as inadvertent generators.

4. Update on EPA's EDC Hazardous Air Pollutant Regulatory Developments.

Mr. de la Cruz reported that they had had recent contact with Bob Shell at EPA, Janet Meyer at EPA/Research Triangle Park, David Beck in the EPA counsel's office, and Bob Romano at CMA. He has learned that EDC will probably be regulated by July 1987 as a hazardous air pollutant along with ethylene oxide and butadine. Mr. de la Cruz noted that EPA is trying to develop a generic NESHAPS standard. Such a standard would involve incinerator vents, storage vessels, fugitive controls, normal inspection, monitoring, repairs, and air oxidation vents. A meeting is being held with CMA representatives at Research Triangle Park on July 24th, where EPA will provide a briefing on its action plan. The CMA contact on this is Alice Mayer.

Mr. de la Cruz noted that a NAPTAC Meeting is scheduled for September 17th and 18th. Mr. Ledvina will be attending this meeting and will report to the Health, Safety, and Environment Committee at its next meeting on this.

Action: Mr. Ledvina to report on September 17-18 NAPTAC Meeting at next Health, Safety, and Environment Committee Meeting.

Mr. Ledvina and Mr. Holbrook advised that they have received questionnaires concerning EDC under Section 114 of the Clean Air Act. These were received in mid-July and are due by July 25th. The main subject the Agency appears to be addressing is waste water and essentially they have asked for a material balance around the biological treatment plants.

5. Update on EPA's VCM Hazardous Air Pollutant Regulatory Developments.

Mr. de la Cruz reported that based on a contact with Fred Dimmick at EPA, the EPA proposal of January 1985 is in red border review and Dimmick expects to see it issued in a few months - i.e., August or September 1986. Mr. de la Cruz expressed skepticism that this date will be met. He also reviewed the history behind the NRDC suit, and the proceedings in the DC Circuit Court. He noted that a decision can be out any time and he would expect one by September because circuit court judges like to issue decisions on cases heard before they change law clerks.

6. Discussion of VCM, PVC, and PVC Compound Labeling.

Company representatives discussed their company practices with regard to labels and material safety data sheets. These are summarized in Table I for VC, Table II for PVC Resin and Table III for PVC Compounds.

TABLE I
 VINYL CHLORIDE LABELING PRACTICES*
 VI MEMBER COMPANIES MANUFACTURING VCM

Company	Does Tank Car Carry A DOT Label?	Does Tank Car Carry An OSHA "Cancer Suspect Agent" Label?	Is MSDS Sent With Tank Car?	Comments
PPG	YES	YES	YES	Product information label put on tank car.
DOW	YES	YES - On materials shipped out of plants	YES	
BORDEN	YES	YES	YES	Tank cars as received carry OSHA "Cancer Suspect Agent" label.
WFCOODRICH	YES	YES - Welded inside dome of tank car.	NO	Are considering whether to put "hazards from fire" information on tank cars.
VISTA	YES	YES	NO	
GEORGIA GULF	YES	YES	YES	

*Information received 7/17/86 at VI Health, Safety & Environment Committee Meeting.

A copy of the PPG product information label on vinyl chloride is attached to these minutes.

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TABLE II
 PVC LABELING AND MSDS PRACTICES* (RESIN)
 VI MEMBER COMPANIES MANUFACTURING PVC RESIN

Company	LABEL ON RESIN			MATERIAL SAFETY DATA SHEETS			Comments
	Does Label Carry An OSHA "Cancer Suspect Agent" Label?	Does Label Carry Notation Regarding Dust?	Does Label Carry Notation Re Fire/Comb. Hazard?	Does MSDS Include VC- "Cancer Suspect Agent" Statement?	Notation Re Dust As A "Hazard?"	Notation Re Fire/Combustion Hazard?	
AIR PRODUCTS	YES - On bags, bulk cars and silos.	NO	NO	YES	YES	YES	
CERTAINTELD	YES	NO	NO	YES	YES	YES	
GEORGIA GULF	YES - On bags, bulk cars	NO	NO	YES	YES	YES	Currently evaluating whether to put decomp. Haz. Statement on MSDS.
OCCIDENTAL	YES - If > 1ppm RVCM NO - If < 1ppm RVCM	NO	NO	YES	YES	YES	
BORDEN	All bags, bulk cars and silos are so labeled. Paste resins are not.	NO	NO	YES	YES	YES	
BFGOODRICH	If > 8.5 ppm RVCM, would be so labeled. Generally resins are < 8.5 ppm and are not so labeled.	NO	NO	YES	YES	YES	Currently evaluating whether label should have notation re dust and fire combustion hazards.
VISTA	NO - Since RVCM is < 8.5 ppm.	NO	NO	NO	YES	YES	

* Information received 7/17/86 at VI Health, Safety and Environment Committee Meeting.

TABLE III
 PVC COMPOUND LABELING AND MSDS PRACTICES*
 VI MEMBER COMPANIES PRODUCING PVC COMPOUNDS

Company	LABEL ON COMPOUND			MATERIAL SAFETY DATA SHEET			Comments
	Does Label Carry An OSHA "Cancer Suspect Agent" Label?	Does Label Carry Notation Re Dust	Does Label Carry Notation Re Fire/Comb. Hazard?	Does MSDS Include VC- "Cancer Suspect Agent" Statement?	Notation Re Dust As A "Hazard?"	Notation Re Fire/Comb. Hazard?	
GEORGIA GULF	NO	NO	YES	NO	NO	YES	Label also carries information on sensitivity to stabilizers
OCCIDENTAL	NO	NO	NO				
BFGOODRICH	NO If RVCM < 8.5 ppm	NO	NO	YES	YES	YES	
VISTA	NO	NO	NO	NO	YES	YES	

*Information received 7/17/86 at VI Health, Safety, & Environment Committee Meeting.

Note that the compositions of PVC Compounds were not discussed, but are likely to vary.

SPI-11544

Action: Company representatives are requested to review the tables shown above and advise Ms. Scheck of any changes and/or revisions/additions needed to properly reflect their company's practices.

Mr. de la Cruz distributed a letter dated July 16, 1986 regarding OSHA regulation of PVC resins and compounds in which he reviewed a "less than satisfying" meeting with John Miles, Director of Occupational Safety and Health, Administration Directorate of Field Operations, and Roy Gibbs and Gail Brinkerhoff of the OSHA staff.

After a review of this meeting, it was agreed that Mr. de la Cruz should develop additional information to submit to the Agency. Dependent on the response Mr. de la Cruz, Dr. Gottesman, and Mr. Barr will brainstorm this and if OSHA is not forthcoming with a clarification on the status of PVC resin compound under the OSHA Vinyl Chloride Standard, we will ask for a meeting with the appropriate Agency personnel.

Action: Mr. de la Cruz will develop additional information to submit to OSHA and if necessary, make arrangements for an additional meeting with the Agency.

7. EPA Proposal of June 13, 1986 Regarding the Hazardous Waste Management System.

There was discussion concerning the proposal in the Federal Register of June 13th relating to EPA's Hazardous Waste Management System, identification and listing of hazardous waste, notification requirements and reportable quantity adjustments.

The representatives present indicated that no one currently has equipment to run the proposed TCLP tests. Messrs. King and Blackman indicated that they feel that there will be trouble with regard to both resin and waste materials. Mr. Ledvina indicated that Vista plans to have the old EP toxicity testing run on some streams to see what the results would be. -It has not carried out any tests at this point. Mr. Barr indicated that while no tests have been run at Air Products, he has no doubts that any PVC containing greater than 1-2 ppm, will exceed 50 ppb of VC in the extract. Mr. Barr further noted that the teflon-lined vessels cost approximately \$1,000 each and probably have limited life.

Company representatives from the following organizations indicated that they will file comments on behalf of their companies:

Air Products and Chemicals
Borden Chemical
Occidental Chemicals
Georgia Gulf
Vista Chemicals

Mr. Holbrook indicated that BFGoodrich had made some equipment and carried out some tests and are proceeding to do others. They have tried to simulate the TCLP extraction procedure. Their initial results show that in general, process wastes from their PVC operations failed the TCLP test. Filter cake from the waste treatment plants has given mixed results, i.e., some passed and some did not. As regards products, except for latex, Mr. Holbrook believes that materials having a residual VCM of up to about 50 ppm will not give extracts exceeding 50 ppb VC.

It was agreed that the Vinyl Institute should be on record offering comments on this proposed rule. At Mr. Barr's suggestion, Dr. Gottesman spoke with Ken Kastner, an attorney at CMA who specializes in RCRA activity. He advised that the August 12th deadline for comments has been extended by 45 days on all factors except for the TCLP procedure. By statute, EPA indicates it must issue regulations regarding landfilling by November 8th and since the TCLP is involved in that regulation, it is not extending the date for comments on that feature.

A task force consisting of Mr. King as Chairman, Messrs. Barr, Ledvina, Blackman (or a designee from Borden), a representative to be named from Georgia Gulf, Mr. de la Cruz, and Ms. Scheck serving as staff will be responsible for developing these comments.

Action: Mr. King to convene this task group to develop comments on the EPA Hazardous Waste Management System proposed rule.

Action: Mr. de la Cruz to write-up comments for Dr. Gottesman's signature regarding the reservations expressed concerning the TCLP procedure.

Mr. Barr developed an outline for use by the task force which could serve as the basis for development of these comments. His outline is as follows:

I. General

A. Support

1. Degree of hazard.
2. Use of toxicity base.
3. Use route specific toxicity.
4. Quantitative levels.
5. No added safety factor on carcinogens.

B. Concerns

1. EPA Risk Assessment Programs.
2. 1,000 fold safety factor to no-effect level.
3. Oilwater coefficients.
4. Choice of candidates.
5. Use of proposed MCL.
6. Inadequate data base.

C. Definition of mismanagement.

D. Multiple Test System - May have to run two tests for container and solution.

E. There are 9 items that EPA is not ready on.

F. Conflicts with RCRA rules.

G. Conflicts with non-RCRA rules. Problem with sludge until EPA makes up its mind. Discussion regarding water and surface impoundments.

H. Impact analysis faulty.

II. Specific concerns for specific substances.

III. Specific questions.

IV. Test methods.

V. Specific products.

VI. Recommendations - Testing Methods
- Listings

8. Update on PVC Solid Waste Disposal Subcommittee.

Mr. Ledvina advised that he had developed a survey form which has been sent out to companies for evaluation of their practices on land disposal of PVC. To this point, he has had six responses from five companies, and he anticipates having all information tabulated for presentation at the October meeting of the Vinyl Chloride Safety Association.

9. Discussion on Community Emergency Planning Activities.

Mr. Baker of Dow presented a video developed by the Texas division regarding the CAER (Community Awareness Emergency Response Program) in Brazosport, Texas. He indicated that the program is now being initiated in Texas and the video is being used on public broadcasting stations. Further information can be obtained from Tim Scott at (409)-238-2099.

Following this, there was discussion concerning establishing a trigger level for notification or evaluation of the public when there is a discharge of vinyl chloride monomer of significance.

It was established that none of the companies present have a trigger level, no one has such a level under consideration, and a community itself has never been evacuated although there have been instances at Dow and PPG where highways have been barricaded and temporarily closed. It is recognized that the real danger in a large VCM discharge is from fire and explosion rather than health effects on the community. By a vote of 8 to 3, the group voted against establishing a trigger level for notification/evacuation of the public based on health effects. It was also suggested that:

1. The Vinyl Institute should not establish a trigger level at this time.
2. Whether there should be community evacuation or highway barricading and closing is an "on the spot call", which must be based on safety considerations.
3. Mr. Baker is to determine whether ORC (the Organization of Resource Counselors) is going to establish a trigger level for VC.
4. Roy Gottesman is to advise the Executive Board of the Committee's recommendation at its September 10th meeting.

Mr. Borrelli provided the Committee with his thoughts for a Community Awareness Survey, which he proposes to carry out. This includes questions concerning the distance of a plant to the nearest community residence, whether the plant has an emergency plan which includes local community emergency response plans, elements of the plan, notification systems, etc.. It was agreed that Mr. Borrelli could proceed with this survey as proposed under the aegis of the Vinyl Institute, and that if the survey is complete before the Vinyl Chloride Safety Committee Meeting in October, it would be presented there.

10. Final Approval of Vinyl Institute VM Storage and Handling Guidelines.

Mr. Barr indicated that he has received final comments and is putting the revised draft of this document into final form.

Action: Mr. Barr is to send final draft of VCM storage and handling guidelines to Roy Gottesman.

Action: Roy Gottesman is to obtain legal approval and then submit this document to the Executive Board for their approval and issuance.

11. VCM NESHAPS Performance Tracking and Annual Awards.

After discussion, the group agreed on the following formula for calculating performance indices.

Performance Index For PVC Plants:

$$PI_{PVC} = 100 - \frac{RVCM \text{ Ex}}{RVCM} \quad 100 - \frac{ROL \text{ Ex}}{ROL} \quad 100 - \frac{VGI \text{ Ex}}{VGI} \quad 100 - RV - RD - MV - BPI$$

Where:

PI = Performance Index
RVCM = Daily average of excursions on residual vinyl chloride monomer.
ROL = Reactor opening losses.
VGI = Excursions at the vent gas incinerator.
RV = Number of relief valve discharges.
MV = Number of manual venting discharges.
RD = Number of rupture disk incidents.
BPI = Number of incinerator by-passes.
Ex = Excursion

Performance Index For VCM Plants:

$$PI_{VC} = 100 - \frac{VGI \text{ Ex}}{VGI} \quad 100 - \frac{Oxy \text{ Rx}}{Oxy \text{ Rx}} \quad 100 - \frac{By-Pass \text{ Hrs.}}{Operating \text{ Hrs.}} \quad 100 - RV - RC$$

It was agreed that the reporting would be by plant in January of each year for the preceding calendar year and that the performance index would be calculated to two decimal places.

Action: Mr. Holbrook will develop instructions for the collection of data and method of calculation. This proposed program will be presented to the Executive Board for approval at its next meeting.

12. Quarterly Safety Statistics Reporting.

Mr. Barr reported that some companies have not submitted their 1985 safety statistics and has requested that these be submitted as soon as possible.

13. Discussion of Plant/Worker Safety Action Information.

Mr. Waltemate of Goodrich provided a detailed description of the incident at Pedricktown, which led to an explosion and fire on May 13th. He also described the corrective measures which have been taken.

Mr. Barr reported on an incident a few days prior to the meeting at their Pensacola plant where electrical power was lost on both incoming lines. Reactors in progress were controlled by manual addition of chainstoppers and manual venting. When power was re-established about 5 hours later, all agitators could be restarted.

14. Company Discussion of Recent State and Federal Enforcement Activities.

The company representatives discussed their individual recent experiences regarding enforcement. Mr. Baker reported that in their Louisiana division, Dow had gotten a request under Section 114 of the Clean Air Act for information regarding their use of flares. Dow has filed suit against EPA indicating that it had properly reported all discharges to the flare and that all prior inquiries for information under Section 114 had led to suits by the Agency for violations. Per agreement with the Agency, the suit is being held pending resolution of a relief valve discharge case.

15. Discussion of "Air Toxics" Activities.

Under the date of January 20, 1986, CMA announced an Air Toxics Program complementary to their CAER Program. This program deals with both accidental releases and process emissions.

Pursuant to CMA's air toxics policy, it was indicated that Dow, PPG, Air Products and Georgia Gulf have old programs underway to evaluate existing environmental controls, and that they are taking another look at these programs in view of the CMA recommendations.

None of the companies are carrying out fault tree analyses pursuant to CMA's proposed air toxics policy and because the EDC/VC/PVC industries are so highly regulated, no one is planning to predict community health risks for their operation.

16. VI Participation in 1986 VCSA Meeting.

The Vinyl Institute will not be making a presentation at the Vinyl Chloride Safety Association Meeting as no invitation has been received.

Action: Roy Gottesman is to ask the Executive Board for approval to make available the Community Health Effects Document and the Handling and Storage Document to the members of the Vinyl Chloride Safety Association.

17. Final Review of Committee Document.

The final draft of the Community Health Effects of Vinyl Chloride developed by a subcommittee consisting of Messrs. Holbrook, Barr, de la Cruz, and Gottesman was reviewed in great detail by the Committee and numerous changes were made.

Action: Roy Gottesman will arrange to have the final draft re-typed, submitted to Mr. Barr for his review, and then sent to Mr. Luss for legal approval.

18. Next Committee Meeting Date.

The next meeting of this Committee was tentatively set for October 8, 1986 in Washington, D.C. at the SPI offices. This is the day immediately preceding the Vinyl Chloride Safety Association meeting.

Action: Mrs. Scheck to make arrangements for this meeting.

The meeting was adjourned approximately 2:30 p.m. on July 18th.

Roy J. Gottesman

RTG/pmb



VINYL CHLORIDE

CAS #75-01-4 UN1086

DANGER!

- EXTREMELY FLAMMABLE—LIQUID AND GAS UNDER PRESSURE
- VAPOR HARMFUL—CANCER-CAUSING AGENT

PRECAUTIONS

- KEEP AWAY FROM HEAT, SPARKS, AND FLAME.
- DO NOT BREATHE VAPOR. Cancer-causing agent; vapors can also cause lung irritation, dizziness, anesthesia, helplessness or unconsciousness.
- USE WITH ADEQUATE VENTILATION. Ventilation must be sufficient to minimize employee exposure to Vinyl Chloride below OSHA or PPG permissible limits (1 ppm 8-hour TWA; 5 ppm ceiling).
- AVOID CONTACT WITH EYES AND SKIN. Can cause frostbite and/or tissue damage due to rapid evaporation.
- DO NOT SWALLOW.
- DO NOT EAT, DRINK OR SMOKE IN WORK AREAS.

+ FIRST AID +

- INHALATION: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.
- SKIN CONTACT: Wash with water, then soap and water while removing contaminated clothing and shoes. Vinyl Chloride's rapid evaporation rate can produce frostbite. For frostbite, do not rub but warm affected area by placing in lukewarm water. Exercise affected area afterwards. Give patient warm drink. If irritation persists, contact a physician. Thoroughly clean contaminated clothing before reuse or discard.
- EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.



PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

SPI-11552

L115A-1A-1284C

SEE REVERSE SIDE FOR HANDLING AND STORAGE

NOTE: READ AND REMOVE TAG BEFORE UNLOADING



VINYL CHLORIDE

CAS #75-01-4 UN1086

Extremely flammable liquid and gas. Immediately evacuate area. Only personnel trained and equipped with NIOSH/MSHA-approved self-contained breathing apparatus should be allowed in area. When burning, vinyl chloride forms toxic and corrosive fumes of hydrogen chloride. Try to shut off source of leak. For small fires, use carbon dioxide or dry chemicals. Cool equipment exposed to fire with water spray.

FIRE

EXPOSURE

INHALATION: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician. **SKIN CONTACT:** Wash with water, then soap and water while removing contaminated clothing and shoes. Vinyl chloride's rapid evaporation rate can produce frostbite. For frostbite, do not rub but warm affected area by placing in lukewarm water. Exercise affected area afterwards. Give patient warm drink. If irritation persists, contact a physician. Thoroughly clean contaminated clothing before reuse or discard. **EYE CONTACT:** Immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

SPILL OR LEAK

Evacuate area, remove all sources of ignition and provide maximum ventilation. Only personnel equipped with appropriate respiratory and skin/eye protection permitted in area. Shut off source of leak and allow spilled material to evaporate. Then flush area of spill with plenty of water and maintain ventilation until vapors are eliminated.

EMERGENCY

Transportation Incident: Contact CHEMTREC at (800) 424-9300. In all other emergencies, contact PPG Industries, Inc., Natick, WV, (304) 843-1300.

DANGER!

- EXTREMELY FLAMMABLE—LIQUID AND GAS UNDER PRESSURE
- VAPOR HARMFUL—CANCER-CAUSING AGENT

Handling and Storage

- For details on handling, please refer to PPG brochure Vinyl Chloride Monomer Handling and Properties (A-994-115).
- Store away from direct sunlight and other sources of heat.
- Avoid contact with flames, hot glowing surfaces or electric arcs.
- Before unloading, purge oxygen from unloading system.
- Do not use in poorly ventilated or confined areas.
- Container and system must be electrically grounded before unloading.
- Wear appropriate respiratory and skin/eye protection in any case where exposure may be above recommended limit.
- Adequate ventilation must be maintained in storage area to reduce fire hazard in the event of a leak.
- For additional product information, contact PPG Industries, Inc.



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One PPG Place
Pittsburgh, PA 15272

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