



U.S. Department  
of Transportation  
**Research and  
Special Programs  
Administration**

400 Seventh St., S.W.  
Washington, D.C. 20590

AUG - 9 2001

Mr. Brian McCarthy  
Administrator, Shipping and Transportation  
Epichem Incorporated  
P.O. Box 8230  
Haverhill, MA 01835

Ref. No. 01-0149

Dear Mr. McCarthy:

This responds to your June 7, 2001 letter requesting clarification of shipments of Division 6.1 poison materials with foodstuffs under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically you ask if your packaging meets the exception provided by § 173.25(c) for poisonous materials that may be transported in the same motor vehicle with foodstuffs.

The answer is no. Your exemption specifies that your material must be packaged in a UN 1A2 drum. The drum is thus the packaging, and not an overpack. You state that you overpack your drum in a UN 4G box. The provisions of § 173.25(c) require that the packaging must be overpacked in a UN 1A2, 1B2, or 1N2 drum tested and marked for a Packing Group II or higher performance level.

I trust this satisfies your request. If we can be of further assistance, please contact us.

Sincerely,



John A. Gale

Transportation Regulations Specialist  
Office of Hazardous Materials Standards



Nelson  
§ 177.841(e)(1)  
§ 173.25  
01-0149

**Epicem Inc.**  
Eastern USA  
26 Ward Hill Avenue  
P.O. Box 8230  
Haverhill, MA 01835  
**Telephone** 978 374 5200  
**Fax** 978 374 6474

Director Office of Hazardous Materials Standards  
U.S. D.O.T. / RSPA  
DHM-10  
400 7<sup>th</sup> Street S.W.  
Washington, D.C. 20590-0001

Attention: Mr. Edward T. Mazzullo

June 7, 2001

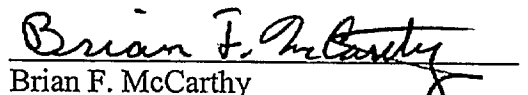
Dear Mr. Mazzullo,

I would like to receive a letter of interpretation in regards to our shipments of 6.1 poison materials meeting the stowage exception in relation to food stuffs as noted by 177.841 (e)(1) and the overpack requirement as described by 173.25 (c).

Our shipments are always packaged in accordance with DOT-E 10048, and exceed it 's requirements by the use of the inner receptacle (cylinder) being placed into two heat sealed plastic bags and the UN1A2 "X" drum being overpacked within a UN4G box. Additionally all our packaging is periodically tested to meet 49 CFR Parts 173 and 178 Subpart E, Materials Poisonous By Inhalation; Division 6.1, Packing Group I, Hazard Zone A; Section 173.226(c).

I am enclosing a copy of exemption DOT-E, pictures of the packaging for your reference, and a copy of the DOT/UN packaging certification. Should you need any further information or have any questions or comments please call me at 978-374-5200 ext. 234.

Thank you,

  
\_\_\_\_\_  
Brian F. McCarthy  
Administrator Shipping / Transportation

**Epicem Inc.**  
Corporate Headquarters  
4905 Tilghman St.  
Suite 240  
Allentown, PA 18104  
**Telephone** 610 706 0606  
**Fax** 610 706 0888

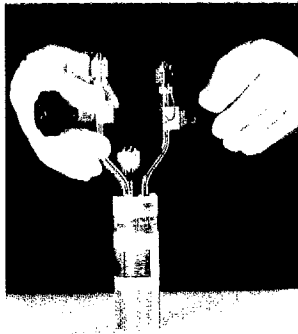
**Epicem Inc.**  
Western Headquarters  
4905 Tilghman St.  
Suite 240  
Allentown, PA 18104  
**Telephone** 949 461 0254  
**Fax** 949 461 9935

**Epicem Inc.**  
Mid American Headquarters  
4905 Tilghman St.  
Suite 240  
Allentown, PA 18104  
**Telephone** 281 461 4123  
**Fax** 281 461 4136

# BUBBLER RETURN POLICY

**NOTE:** In order to facilitate the return of our bubblers once your usage is complete, please retain and preserve all packaging materials from the original order shipment.

## THE BUBBLER



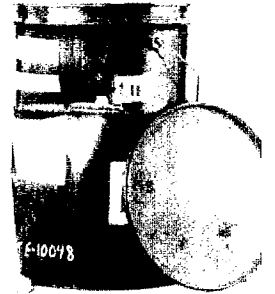
**Step 1:**  
Ensure the bubbler inlet and outlet valves are closed. Securely fasten end caps onto VCR connections using new gaskets.



**Step 2:**  
Place bubbler into plastic bag.



**Step 3:**  
Ensure you have the correct Packing Group 1 container. The lettering at the bottom of the drum should read "UN 1A2/X".



**Step 4:**  
The drum must be in good condition: there can be no dents or rust.

## PACKING THE DRUM



**Step 5:**  
Line the floor and walls of the drum with bags of vermiculite.



**Step 6:**  
Insert the bubbler amongst the bags. Ensure it is in an upright position.



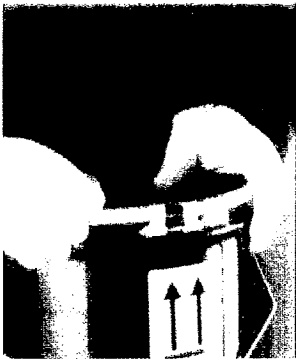
**Step 7:**  
Place additional vermiculite bags around and on top of the bubblers until they are secure.



**Step 8:**  
Insert a completed Bubbler Return Form, Material Safety Data Sheet (MSDS) and DOT Exemption (if applicable). Give copies of the above documents to the shipper.



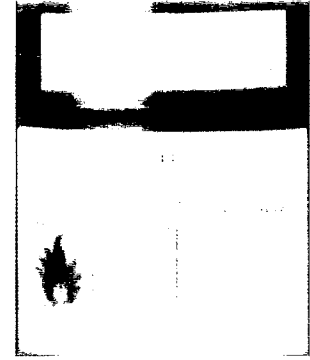
# CLOSING AND LABELLING THE DRUM



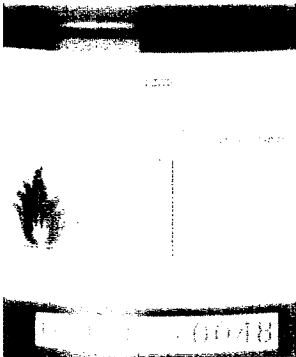
Step 9:  
Secure the lid with bolt enclosure.



Step 10:  
Orientation Labels:  
Two of these must be placed on the drum, one on each side.  
Classification Labels:  
Two of these must be placed on the drum, one on each side.

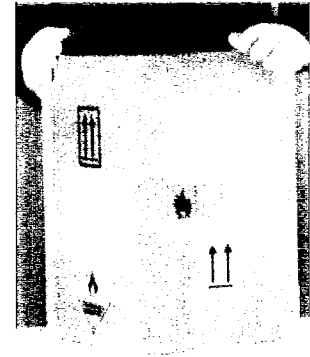


Step 11:  
Product Label:  
One of these must be placed on the drum to correspond with the contents of the bubbler.  
Compliance Label:  
One must be placed above the product label that reads: "Inner packages comply with prescribed specifications".



Step 12:  
If a DOT Exemption is required:  
Write the DOT reference number (DOE-10048) on the drum beneath the product label.  
The package is now ready for shipment. The shippers will require copies of the Material Safety Data Sheet and DOT Exemption form.  
Note: For added protection you may place drum in 4G box labelled identically to drum.

Step 13:  
If a DOT Exemption is not required:  
Place labelled drum into a 4G box labelled identically to the drum (refer to steps 10 and 11). The package is now ready for shipment. The shippers will require a copy of the Material Safety Data Sheet.



## NOTES

- 1) Several bubblers may be packed in the same drum, provided they are of the same hazard classification.
- 2) If you do not have a correctly labelled UN 1A2 container, please notify an Epichem representative and we will provide one for you.
- 3) Please ship via a carrier who will transport dangerous goods.
- 4) If you have any questions or wish to return the product for credit, please contact your Epichem representative.

Thank you for your cooperation. It is greatly appreciated.



## RETURN THE PACKAGE TO:

**Epichem Inc.**  
**26 Ward Hill Avenue,**  
**Haverhill, MA 01835-0730,**  
**USA**

**For general enquiries and more information on shipping and returns, contact:**

**info@epichem.com**

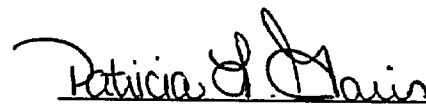
**or fax us on:**

**1 610-706 0888**

**DOT / UN PACKAGING CERTIFICATION  
PERIODIC RETEST**

TEN-E PACKAGING SERVICES, INC. certifies that the **Epichem Liquids & Solids Bubblers Package** has passed the standards of the DEPARTMENT OF TRANSPORTATION'S TITLE 49 CFR; Materials Poisonous by Inhalation, Hazard Zone A, Section 173.226 and the Performance Oriented Packaging Standards, Section 178. This package is also certified in accordance with the requirements set forth by IMDG and the UN Recommendations on the Transport of Dangerous Goods. It is the responsibility of the end user to determine authorization for use under these regulations. The use of other packaging methods or components other than those documented in this report may render this certification invalid.

<b>PACKAGE DESCRIPTION:</b>	<b>Epichem Liquids &amp; Solids Bubblers Package</b>
<b>TEST REPORT NUMBER (S):</b>	16243, 14275, 12754
<b>UN MARKING (CFR 49 - 178.503):</b>	(u) 4G / X19.8 / S / ** (n) USA / +AA0945
<b>PACKAGING IDENTIFICATION CODE:</b>	4G - Fiberboard Box (178.516)
<b>AUTHORIZED PACKING GROUP (S):</b>	I (X), II (Y) & III (Z)
<b>AUTHORIZED GROSS WEIGHT:</b>	19.8 Kg (43.7 Lbs.)
<b>"S" DESIGNATION:</b>	Denotes Inner Packagings
<b>YEAR OF MANUFACTURE:</b>	**Insert year the packaging is manufactured
<b>STATE AUTHORIZING THE MARK:</b>	USA
<b>PACKAGING CERTIFICATION AGENCY:</b>	(+AA) TEN-E Packaging Services, Inc.
<b>THIRD PARTY PACKAGE IDENTIFICATION:</b>	+AA0945
<b>PERIODIC RETEST DATE:</b>	May 8, 2000

  
Patricia L. Garin  
Manager, Technical Services  
TEN-E Packaging Services, Inc.

ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY THAT THE PACKAGING TESTED IS MERCHANTABLE OR FIT FOR A PARTICULAR PURPOSE, ARE DISCLAIMED. In no event shall TEN-E Packaging Services, Inc. liability exceed the total amount paid by **Epichem, Inc.** for services rendered. In the event of future changes to the above referenced test standard, it is the responsibility of **Epichem, Inc.** to determine whether additional testing or updating of past testing is necessary to verify that the packaging we have tested remains in compliance with those standards.



DOT - E 10048  
( SIXTH REVISION)

EXPIRATION DATE: April 30, 2000

(FOR RENEWAL, SEE 49 CFR S 107.109)

1. **GRANTEE:** Air Products and Chemicals, Inc.  
( Formerly Epichem, Inc., Bethlehem, PA)  
Allentown, PA  
  
( See Appendix A to this document for a list of additional grantees)
2. **PURPOSE AND LIMITATION:** This exemption authorizes the use of a UN 1A2 drum with inside non-DOT specification metal containers for the transportation in commerce of the materials described in paragra<sup>p</sup> 6 below. This exemption provies no relief from any regulation other than as specifically stated herein.
3. **REGULATORY SYSTEM AFFECTED:** 49 CFR parts 106, 107 and 171-180.
4. **REGULATIONS FROM WHICH EXEMPTED:** 49 CFR ss 173.181, 173.187, 173.201, 173.202, 173.203, 173.211, 173.212, 173.213, 173.226, and 173.227.
5. **BASIS:** This exemption is based on the application of Air Products and Chemicals, Inc. dated January 9, 1998, and supplemental information dated May 6, 1998, submitted in accordance with S 107.109.
6. **HAZARDOUS MATERIALS (49 CFR S 172.101):**

Hazardous materials description/proper shipping names	Hazard Class/Division	Identification numbers	Packing Groups
Aluminum Alkyl hydrides	4.2	UN3076	I
Aluminum Alkyls	4.2	UN3051	I
Carbon Tetrachloride	6.1	UN1846	II

## Continuation of DOT-E 10048 (6th Rev.)

Hazardous materials description/proper shipping names	Hazard Class/Division	Identification numbers	Packing Groups
Diethylzinc	4.2	UN1366	I
Dimethylzinc	4.2	UN1370	I
Flammable Liquids toxic, n.o.s.	3	UN1992	II
Magnesium Alkyls	4.2	UN3053	I
Metal alkyls, water-reactive, n.o.s. (Tertiarybutylphosphine)	4.2	UN2003	I (Zone B)
Organometallic compound solution, water-reactive, flammable, n.o.s.	4.3	UN3207	I
Pyrophoric solids, organic, n.o.s.	4.2	UN2846	I
Pyrophoric liquids, organic, n.o.s.	4.2	UN2845	I
Selenium Compound, n.o.s.	6.1	UN3282	II
Tellurium Compound, n.o.s.	6.1	UN3284	II
Toxic, Liquids, Organic, n.o.s.	6.1	UN2810	I
Toxic Solids, Flammable Organic, n.o.s.	6.1	UN2930	I
Toxic Liquid, Organic, n.o.s. (Tertiarybutylarsine)	6.1	UN2810	I (Zone A)
Water-reactive liquid, toxic, n.o.s.	4.3	UN3130	I

Continuation of DOT-E 10048 (6th Rev.)

7. PACKAGING - Packaging prescribed is a non-Dot specification welded cylinder described as a bubbler overpacked in a UN1A2 drum. The inside containers must be as described in Epichem, Limited's drawing number 10536, dated January 27, 1988. The inside containers must be designed to Section VIII, Division I of the ASME Code. In addition:
- (a) The capacity of the inside containers may not exceed 4 liters.
  - (b) The design pressure of the inside containers must be at least 400 psig.
  - (c) The bodies of the inside containers must be constructed of ASTM A240-316 or equivalent stainless steel with a minimum thickness of 1/16 inch. The end plates must be constructed of ASTM A249-316 or equivalent stainless steel with a minimum thickness of 1/8 inch.
  - (d) The inside containers may be equipped with valves. No opening in the inside containers may exceed one inch in diameter.
  - (e) Inside containers must be surrounded on all sides by incombustible cushioning material inside the UN 1 A2 drum.
8. SPECIAL PROVISIONS:
- a. Net quantity of Division 4.2 liquids may not exceed two-thirds of the rated capacity of the outer drum.
  - b. Drivers must have been instructed as to necessary safeguards and proper procedure in the event of fire, or accident.
  - c. Persons who receive the packages covered by this exemption may reoffer them for transportation provided no modifications or changes are made to the packages, all terms of this exemption are complied with and a current copy of this exemption is maintained at each facility from which such reoffering occurs.



Continuations of DOT-E 10048 (6th Rev.)

d. Shippers using the packaging covered by this exemption must comply with all provisions of this exemption, and all other applicable requirements contained in 49 CFR Parts 171-180.

e. Persons who receive packages covered by this exemption may reshipe them pursuant to the provisions of S 173.22a.

f. Persons who offer the hazardous materials covered by this exemption must comply with S 173.24 (e).

TESTING:

(a) Each inside container must be inspected and retested at least once every five years at 5/3 times the design pressure in accordance with S 173.34.

(b) Each inside container must be hydrostatically tested with a pressure of at least 728 psig at the time of manufacture.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and cargo vessel.
10. MODEL REQUIREMENTS: A copy of this exemption must be carried aboard each cargo vessel and motor vehicle used to transport packages covered by this exemption.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et sec:
- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
  - o Registration required by 49 CFR 107.601 et sec. , when applicable.
- Each "Hazmat employee", as defined in S 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by SS 172.700 through 172.704.

Continuation of DOT-E 10048 (6th Rev.)

No person may use or apply this exemption, including display of its number, when the exemption has expired or is otherwise no longer in effect.

12. **REPORTING REQUIREMENTS:** The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under authority of this exemption.) In addition, the holder(s) of this exemption must inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued at Washington, D.C.:

\_\_\_\_\_  
For Alan I Roberts  
Associate Administrator  
for Hazardous Materials Safety

\_\_\_\_\_  
(DATE)

Address all inquiries to: Associate Administrator for Hazardous Materials Safety,  
Research and Special Programs Administration, Department of Transportation,  
Washington, D.C. 20590

The original of this exemption is on file at the above office. Photo reproductions and legible reproductions of this exemption are permitted. Any alteration of this exemption is prohibited.

Dist: FHWA, USCG  
PO: am

APR 24 2000

APPENDIX A

The following are hereby granted party status to this exemption based on their application(s) submitted in accordance with §§ 107.107 or 107.109, as appropriate:

Company Name City/State	Application Date	Issue Date	Expiration Date
Epichem, Inc. Haverhill, MA	4/6/00	APR 24 2000	3/31/02



for Robert A. McGuire  
Acting Associate Administrator for  
Hazardous Materials Safety