Dear ECHA,

We are proposing a Technical alternative to the handling recommendations provided in this document for reducing the exposure to Bis(2-methoxyethyl) ether and handling Bis(2-methoxyethyl) ether in accordance with the EU [1], [2], [3] directives on carcinogens, mutagens and reprotoxic.

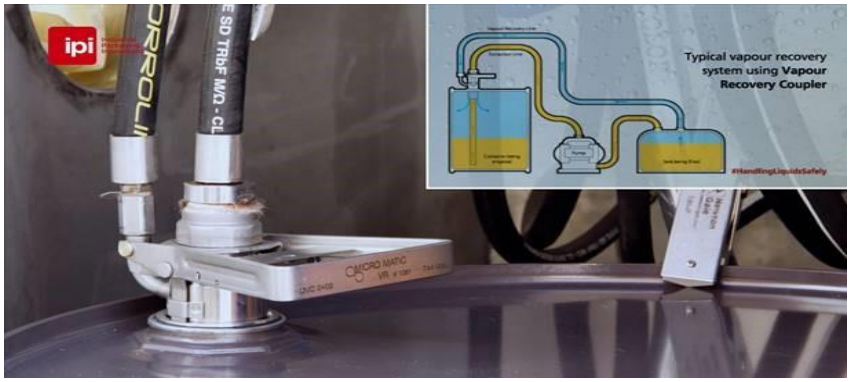
These Directives clearly acknowledge the usefulness of a closed system for the protection of workers. In fact, is specifically mentioned that *"where possible, a carcinogenic substance should be substituted with a less-hazardous alternative – otherwise carcinogens must, so far as is technically possible, be manufactured and used in a closed system to prevent exposure of workers"*.

Introduction of Company.
IPI Global Ltd are REACHReady Approved Suppliers and are specialists in supplying a completed closed loop equipment (valves system and/or containers) for the safe storage and transfer of toxic and hazardous chemical liquids - www.ipi-global.com and are in accordance with the latest EU Directives [1],[2],[3] of worker and environment protection from hazardous chemicals such as carcinogenic, mutagenic and reprotoxic.
IPI Global Ltd have 20 years of experiences in supplying completed closed systems.

Product profile.
The valve-coupler system allows the transfer of liquids from one container to another (for example, from an IBC of 1000 litres, to drums of different capacity and down to 25 litres and vice versa) in a closed system with a vapor recovery option, protecting the end operator and the environment.

The valve has a dual function.
The first is a cap (it falls into Group I, II and III according to International Carriage of dangerous goods Regulations, ADR).
The second is to open the liquid transfer circuit when the coupler is inserted.
Moreover, our closed system has been shown to reduce exposure below the threshold of **0.02 ppm** for a Carcinogenic chemical as reported in the Scientific support section.

Technical information.



coupler

Valve

The valve can be integrated into plastic or metal drums with the appropriate 2"BSP, 56x4mm or 2.5" American Buttress internal thread.
Connection size:
Basic Coupler product outlet: 1" BSPP or RG (female)
Basic VR Coupler vapour recovery: ¼" BSPP or RG (female)
Fill Head/HD Coupler product out/inlet: 1" NPT (male)
Fill Head/HD Coupler vapour recovery: ¼" NPT (female)
The attachment of the dry break coupler enables quick and safe transfer of hazardous products from drum to dispense equipment.

Connection between valve and coupler could have different pin arrangement of 3 or 4 pins in order to avoid cross contamination of two different chemicals.
Flow rate from approximately 18 US Gallon/min. to 24 US Gallon/min.
Valve and coupler material is in Stainless steel 304, 316 or in Nylon.
Residual amount of product for all closed systems is 0,5 ml.
Seal material in EPDM, Viton, Aflas, FKH-HiPer

Scientific support.
IPI Global Ltd closed system is in accordance with the latest EU Directives [1], [2], [3] of worker and environment protection from hazardous chemicals such as carcinogenic, mutagens and reprotoxic as illustrated in a case study on the handling of Hydrazine Hydrate (Substance of very high concern (SVHC)) from the Government Health and Safety Executive (HSE).

http://www.hse.gov.uk/cancer/cancer-case-study1.pdf

The result was a completely enclosed and automated handling, transfer and storage system which eliminates the risk of exposure to the company's production staff under normal operating conditions.

In fact, the exposure limit for Hydrazine Hydrate is **0.02 ppm** and they monitor the air using a hydrazine meter, also the Health and Safety Laboratory (HSL) came to site many years ago and started some biological monitoring of the employees for Hydrazine Hydrate.

They also have a full yearly medical where they look for blood abnormalities and test organ function. They haven't any employee with any issues when working with Hydrazine Hydrate.

The video showing how our complete closed system has been successfully under scientific scrutiny from the UK Health and Safety Executive (HSE), demonstrating a high level of security and how it is used is narrated by OQEMA Ltd (formerly Lansdowne Chemicals) (www.oqema.com) at the following link:

https://www.youtube.com/watch?v=DMC99Vn2UHM&

Economic and social benefit of using a complete closed system.
In the light that studies have shown that *"at least 32 million workers are exposed to carcinogens and work-related cancer kills 10 people per hour"* and the connected direct costs *"Direct costs of work-related cancer in terms of healthcare and productivity losses amount at least to some 4-7 billion EUR per year"* and indirect costs *"The indirect costs may reach as much as about 334 billion EUR (242 – 440) each year"* [4].
Moreover, *different studies prove that the employer will have a return in double for every euro spent on occupational safety and health.*
And as regards the scientific study from the HSE, it is clearly beneficial to use our complete closed system for handling Bis(2-methoxyethyl) ether to reduce exposure below 0.1%.

[1] http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1491400491437&uri=CELEX:32004L0037
[2] https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-248-EN-F1-1.PDF
[3] https://ec.europa.eu/transparency/regdoc/rep/1/2017/EN/COM-2017-11-F1-EN-MAIN-PART-1.PDF
[4] https://ec.europa.eu/transparency/regdoc/rep/1/2017/EN/COM-2017-12-F1-EN-MAIN-PART-1.PDF