

Evaluation of Substitutes and Authorization for Toxic and CMR Substance Procurement

By C. Veit and R. Lugsteiner November 2025
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Substitute Material Assessment (“Ersatzstoffprüfung”):

- **Replacement of CMR or acutely toxic substances** by a less / no harmful substitute if possible.
 - **Mandatory for CMR substances**
 - per Poison Ordinance (“Giftstoffverordnung”)
 - derived for **acutely toxic substances**
 - per Occupational Health and Safety Act (“Arbeitnehmer:innenschutzgesetz”)
- STOP principle: substitution first**



Definition CMR Substances

- **GHS 08**
- **Carcinogenic:**
 - H350: may cause cancer
 - H351: suspected of causing cancer
- **Mutagenic:**
 - H340: may cause genetic defects
 - H341: suspected of causing genetic defects
- **Reproductive toxic:**
 - H360: may damage fertility or the unborn child
 - H361: suspected of damaging fertility or the unborn child
 - H362: may cause harm to breast-fed children



Definition of Acutely Toxic Substances

- GHS 06
- **H300**: fatal if **swallowed**
- **H301**: toxic if **swallowed**.
- **H310**: fatal in **contact with skin**.
- **H311**: toxic in **contact with skin**.
- **H330**: fatal if **inhaled**.
- **H331**: toxic if **inhaled**.



Substitute Material Assessment (“Ersatzstoffprüfung”):

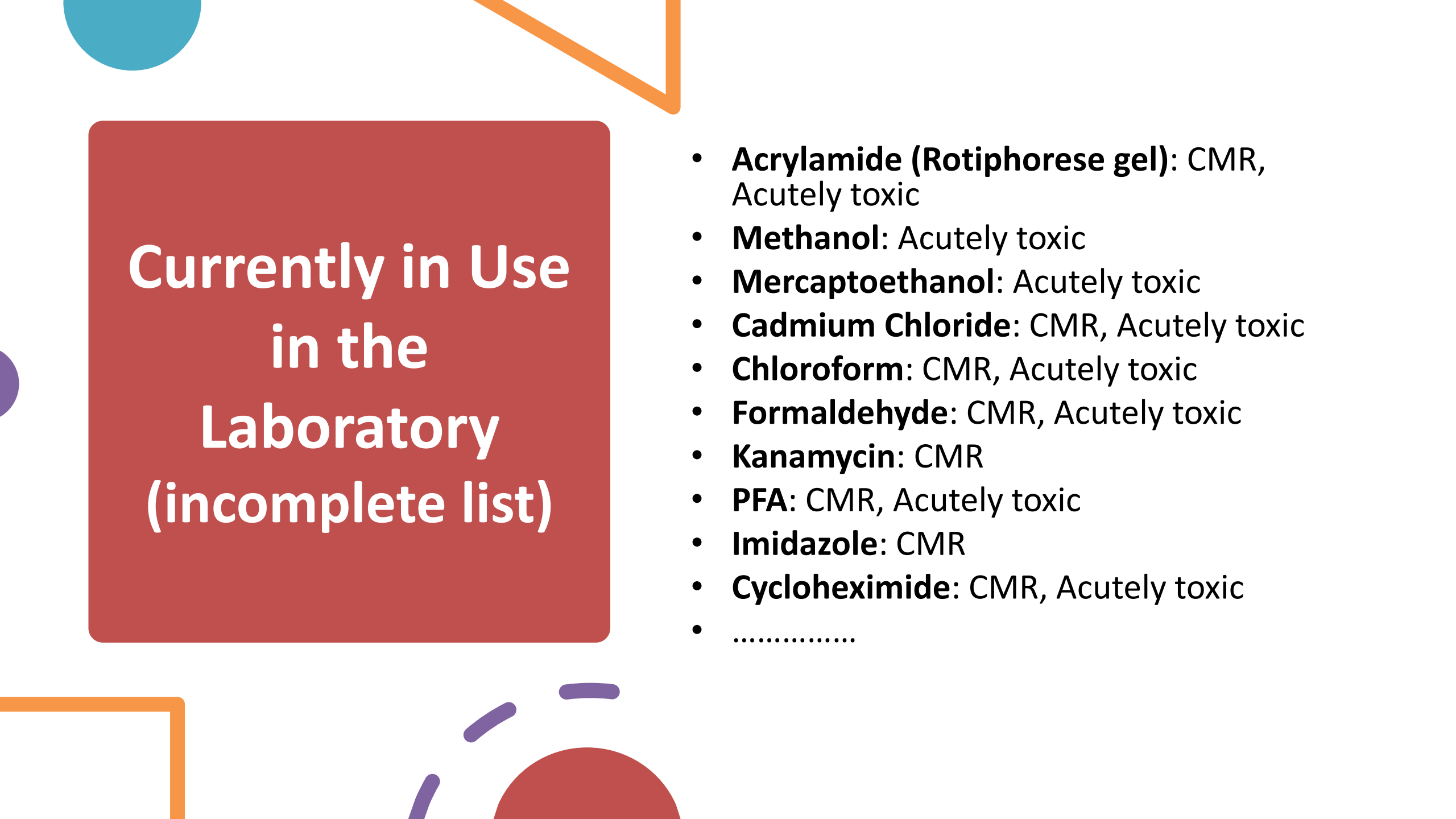
- Conduct assessment **before** ordering
- **Substitutes** found less hazardous have to be preferred (**mandatory!**)
- Usage of a CMR substance or acutely toxic substance
 - **Record** the entire substitution assessment process
 - provide a **detailed written justification**
 - has **to be signed** by responsible PI



Substitute Material Assessment (“Ersatzstoffprüfung”):

- DBL directive upcoming:
 - Acc. to law the **purchaser is responsible** that this procedure was carried out properly
 - BOKU or DBL do not assume any responsibility towards third parties
 - Standardized form will be issued





**Currently in Use
in the
Laboratory
(incomplete list)**

- **Acrylamide (Rotiphorese gel):** CMR, Acutely toxic
- **Methanol:** Acutely toxic
- **Mercaptoethanol:** Acutely toxic
- **Cadmium Chloride:** CMR, Acutely toxic
- **Chloroform:** CMR, Acutely toxic
- **Formaldehyde:** CMR, Acutely toxic
- **Kanamycin:** CMR
- **PFA:** CMR, Acutely toxic
- **Imidazole:** CMR
- **Cycloheximide:** CMR, Acutely toxic
-

Authorization to Purchase Toxic Substances ("Giftbezugsberechtigung")

- Requires relevant completed education and **valid first aid training certificate**.
- List issued annually by the Environmental Protection Unit for the Rectorate.
- Must comply with Poison Ordinance, including proper handling, storage and documentation (!Poison Book!).



Authorization to Purchase Toxic Substances (“Giftbezugsberechtigung”)

- DBL directive **upcoming**:
 - active status as a first responder will be verified
 - Common First Aid Course at BOKU for DBL members will be organized
 - Beginning with 2026 the active status as a first responder will be confirmed by Environmental Protection Unit
 - Contact: Andreas Toifl andreas.toifl@boku.ac.at



Cart

Ihr Einkaufswagen (1)

IPBT-Institut IPBT Preise in Bes

82,71 82,71 EUR

Standard

- CMR
- Ex-Ausgangsstoff **explosiv precursors**
- Gift **poison**
- Standard

Select the matching description


Required confirmations on OMS Order system

Lieferkosten 15,90 EUR, ab 150 EUR Lieferung frei Haus

40% Acrylamid-/Bisacrylamid-Stammlösung, 1 l, Glas (3030.1) 82,71 82,71 EUR **CMR Gift**

OMS

ACHTUNG: In Ihrem Warenkorb befinden sich Gift- bzw. CMR-Stoffe!



Ich bestätige, dass eine Ersatzstoffprüfung vorgenommen wurde durch:

Veit Christiane

Bestellung abschließen


Impressum | Datenschutzerklärung | OMS KG | Teichweg 7 | A-4533 Piberbach | Tel: +43-(0)664-2121997 | Email: office@bestellsystem.at | UID: ATU66102718

Lieferkosten 15,90 EUR, ab 150 EUR Lieferung frei Haus

40% Acrylamid-/Bisacrylamid-Stammlösung, 1 l, Glas (3030.1) 82,71 82,71 EUR **Standard**

OMS

Im Warenkorb befinden sich keine Gift- bzw. CMR-Stoffe.



Ich bestätige, dass sich in meinem Warenkorb keine Gift- bzw. CMR-Stoffe befinden.

Bestellung abschließen

Impressum | Datenschutzerklärung | OMS KG | Teichweg 7 | A-4533 Piberbach | Tel: +43-(0)664-2121997 | Email: office@bestellsystem.at | UID: ATU66102718

Required confirmations on OMS Order system

Variante 3: Es wurden Produkte als Giftstoffe deklariert (Keine Gift-Bezugslizenz)

Ordering Management System

The screenshot displays the OMS interface with a warning modal box. The modal box, titled "Achtung:" (Warning!), features a skull and crossbones icon and the text: "Ihre Bestellung enthält Giftstoffe. Sie sind aktuell nicht zum Bezug von Giftstoffen berechtigt" (Your order contains toxic substances. You are currently not authorized to purchase toxic substances). A "Zurück zum Warenkorb" (Back to shopping cart) button is located at the bottom of the modal. The background shows a shopping cart for "Th. Geyer GmbH & Co. KG" with a total net amount of 28,63 EUR. The cart contains one item with quantity 1, product code 10005228, and a unit price of 100 MLT. The interface includes navigation menus for "Bestellungen", "Administration", and "Benutzerdaten", and a user profile for "Hofbauer / BTLW".

Bestellungen Administration Benutzerdaten Ihr Einkaufswagen (1) Hofbauer / BTLW

Einkaufswagen

Th. Geyer GmbH & Co. KG 28,63 EUR

1x 10005228 100 MLT N,N 28,63 EUR

Kommentar für Bestellung hier eingeben

Lieferkosten eingeben

Gesamtsumme netto 28,63 EUR

[Lieferadresse bearbeiten](#)

Kostenpflichtige Bestellung

Achtung:

Ihre Bestellung enthält Giftstoffe. Sie sind aktuell nicht zum Bezug von Giftstoffen berechtigt

Required confirmations on OMS Order system

Summary

Acutely toxic and CMR substances can only be ordered if

- Substitute material assessment was completed and confirmed in the OMS ordering process

Acutely toxic substances can only be ordered if:

- Listed on BOKU's authorized purchasers list
 - relevant education or course
 - valid first aid training certificate
 - confirmed in the OMS ordering process

