

GUIDELINES FOR HAZARDOUS MATERIALS AND RESEARCH EQUIPMENT DONATIONS

1. Purpose and scope

To ensure the health and safety of the Concordia community and to ensure compliance with government regulations, all donations of hazardous materials and equipment from outside the University are subject to review and approval by Environmental Health and Safety (EHS) prior to collection from the donor or receiving them at the University. Hazardous materials and equipment include but are not limited to: chemicals, biological products, research samples, and research equipment.

In this document, “donors” may be other universities, institutions, companies, warehouses, stores, labs, collaborators, etc.

EHS review is required to fulfill responsibilities with regard to:

- legal duties and compliance obligations as required by some regulations including but not limited to Controlled Substances Act, Hazardous Product Act, Transport of Dangerous Goods Regulations, Nuclear Safety and Control Act, and Controlled Goods Regulations;
- ensuring safety of personnel involved in the transfer (e.g. in cases where Distribution Services is collecting, delivering, or receiving the material);
- ensuring the destined location has appropriate facilities to handle the donated materials;
- minimizing costs of waste disposal, where “Free” items that cannot be used for their intended purposes and which require special disposal methods may ultimately prove to be a costly expense without benefit.

2. Simplified procedure

Prior to receiving donated hazardous materials, the requestor (i.e. the principal investigator or Faculty member who wants to receive donated hazardous materials) is required to provide EHS with a complete list of materials to be received.

The following information must be included:

- the name/identity of each chemical, sample, or product; in the case of commercial products, the manufacturer or the vendor (e.g. “Sika” for Sikaflex 40);
- physical state of the chemical (e.g. liquid, solid, Nano powder, aerosol, compressed gas, dissolved in a matrix, etc.);
- type of container (e.g. glass bottle, plastic bottle, bag, plastic drum, metal drum, etc.);
- number of containers and container volumes (e.g. 2x 500g sodium hydroxide, 4x 1L denatured ethanol, etc.);
- current safety data sheet (SDS) for any WHMIS-controlled product,.

3. Specific requirements and restrictions with regard to chemicals donations

All chemicals to be received must be in a container that meets Transportation of Dangerous Goods (TDG) specifications, and must be packed according to TDG requirements. Donations of batteries are to meet TDG packing requirements as well. EHS can assist in determining the proper requirements.

Expired chemicals must not be accepted as donations. The expiry date of any product should be at least one year from the date on which the product will be received.

Restrictions may apply to the following categories of materials. For those, possession or transfer of some materials may require a permit or have other limitations imposed by governmental agencies:

- Controlled Goods;
- Controlled Substances and other narcotics;
- Nuclear substances;
- Explosives;
- PCB and PCB containing materials;
- REACH restricted materials (see list at the end of this document);
- Chemicals listed in the chemicals weapons convention;
- Spontaneously flammable products;
- Restricted chemicals or chemicals listed on an inventory of dangerous substances (e.g. Prohibition of Certain Toxic Substances Regulations; 2012 SOR-2012-285; see at the end).

For more information on chemicals restrictions, please refer to the following:

- [Annex 1: list of restricted substances as per the Prohibition of Certain Toxic Substances Regulations, 2012 SOR-2012-285](#)
- [Annex 2: list of other restricted substances – based on REACH regulation](#)

Transfer requests for the following materials will likely be refused:

- Containers that have been opened, damaged, corroded or showing signs of deterioration;
- Compressed flammable gases of NFPA rating 4;
- Compressed toxic gases of NPFA rating of 3 or 4;
- Highly corrosive or extremely toxic chemicals (such as HF);
- Shock sensitive materials;
- Polymerizing materials with a stabilizer requiring refrigeration;
- Elemental mercury and mercury compounds;
- Expired chemicals;
- Hazardous chemicals lacking a valid safety datasheet (SDS);
- Pyrophoric materials;
- Highly reactive materials.

Please note the possibility of contamination makes it a safety issue with most of these items listed.

4. Specific requirements with regard to biological materials donations

Biological materials encompasses pathogenic **and** non-pathogenic microorganisms, proteins and nucleic acids, as well as any substance or material that may contain them. Examples include bacteria, viruses, fungi, prions, toxins, genetically modified organisms, cell cultures, environmental samples, and tissue, blood and body fluids of human or animal origin.

Transfers of **biological materials** must follow approved procedures for the Transfer of Biological Substances. Further information is available at: concordia.ca/campus-life/safety/lab-safety/bio-safety
You may also or contact the Biosafety Officer: Frederic Guilhem, x7334 or via email at frederic.guilhem@concordia.ca.

5. Specific requirements with regard to Nuclear substances and Radiation Emitting Devices

For nuclear substances, radiation devices or radiation emitting devices, (**e.g. radioactive materials, equipment containing radioactive materials, x-ray devices or laser devices**) permission from the RSO is required. A Radioisotope Transfer Document must be completed and signed by the donor, recipient and the RSO. Contact the Radiation and Laser Safety Officer: Gurnam Manku, x4356 or via email at gurnam.manku@concordia.ca.

Annex 1: list of restricted substances as per the *Prohibition of Certain Toxic Substances Regulations, 2012 SOR-2012-285*

1. Dodecachloropentacyclo [5.3.0.02,6.03,9.04,8] decane (Mirex)
2. Polybrominated Biphenyls that have the molecular formula $C_{12}H_{(10-n)}Br_n$ in which “n” is greater than 2 (PBB)
3. Polychlorinated Terphenyls that have the molecular formula $C_{18}H_{(14-n)}Cl_n$ in which “n” is greater than 2 (PCT)
4. Bis(chloromethyl) ether that has the molecular formula $C_2H_4Cl_2O$ (BCME)
5. Chloromethyl methyl ether that has the molecular formula C_2H_5ClO (CMME)
6. (4-Chlorophenyl)cyclopropylmethanone,O-[(4-nitrophenyl)methyl]oxime that has the molecular formula $C_{17}H_{15}ClN_2O_3$ (NCC ether)
7. N-Nitrosodimethylamine, which has the molecular formula $C_2H_6N_2O$ (NDMA)
8. Hexachlorobutadiene, which has the molecular formula C_4Cl_6 (HCBd)
9. Dichlorodiphenyltrichloroethane, which has the molecular formula $C_{14}H_9Cl_5$ (DDT)
10. Hexachlorobenzene (HCB)
11. Benzidine and benzidine dihydrochloride, which have the molecular formula $C_{12}H_{12}N_2$ and $C_{12}H_{12}N_2 \cdot 2HCl$, respectively
12. Hexane, 1,6-diisocyanato-, homopolymer, reaction products with alpha-fluoro-omega-2-hydroxyethyl-poly(difluoromethylene), C_{16} -20-branched alcohols and 1-octadecanol
13. 2-Propenoic acid, 2-methyl-, hexadecyl ester, polymers with 2-hydroxyethyl methacrylate, gamma-omega-perfluoro C_{10} -16-alkyl acrylate and stearyl methacrylate
14. 2-Propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with butyl 2-propenoate and 2,5 furandione, gamma-omega-perfluoro C_8 -14-alkyl esters, tert-Bu benzenecarbo peroxyate-initiated
15. 2-Propen-1-ol, reaction products with pentafluoroiodoethane tetrafluoroethylene telomer, dehydroiodinated, reaction products with epichlorohydrin and triethylenetetramine
16. 2-methoxyethanol, which has the molecular formula $C_3H_8O_2$ (2-ME)
17. Pentachlorobenzene, which has the molecular formula C_6HCl_5 (QCB or PeCB)
18. Tetrachlorobenzenes, which have the molecular formula $C_6H_2Cl_4$ (TeCB)
19. Polychlorinated naphthalenes (PCN)
20. Short-chain chlorinated alkanes (SCCA) formerly Chlorinated Paraffns
21. Benzenamine, N-phenyl-, Reaction Products with Styrene and 2,4,4-Trimethylpentene (BNST)
22. Tributyltins (TBTs)
23. Hexabromocyclododecane, which has the molecular formula $C_{12}H_{18}Br_6$ (HBCD)
24. Perfluorooctanoic acid, which has the molecular formula $C_7F_{15}CO_2H$, its salts, and its precursors (PFOA)
25. Perfluorocarboxylic acids that have the molecular formula $C_nF_{2n+1}CO_2H$, in wich $8 \leq n \leq 20$, their salts and their precursors (Long-Chain PFCAs)
26. Polybrominated diphenyl ethers that have the molecular formula $C_{12}H_{(10-n)}Br_nO$ in which $4 \leq n \leq 10$ (PBDEs)
27. Perfluorooctane sulfonate, its salts and its precursors (PFOS)

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Annex 2: list of other restricted substances – based on REACH regulation:

1. 5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene)	CAS No: 81-15-2
2. 4,4'-Diaminodiphenylmethane (MDA)	CAS No: 101-77-9
3. Hexabromocyclododecane (HBCDD)	CAS No: 3194-55-6 & 25637-99-4
• alpha-hexabromocyclododecane	CAS No: 134237-50-6,
• beta-hexabromocyclododecane	CAS No: 134237-51-7
• gamma-hexabromocyclododecane	CAS No: 134237-52-8
4. Bis(2-ethylhexyl) phthalate (DEHP)	CAS No: 117-81-7
5. Benzyl butyl phthalate (BBP)	CAS No: 85-68-7
6. Dibutyl phthalate (DBP)	CAS No: 84-74-2
7. Diisobutyl phthalate (DIBP)	CAS No: 84-69-5
8. Diarsenic trioxide	CAS No: 1327-53-3
9. Diarsenic pentaoxide	CAS No: 1303-28-2
10. Lead chromate	CAS No: 7758-97-6
11. Lead sulfochromate yellow (C.I. Pigment Yellow 34)	CAS No: 1344-37-2
12. Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	CAS No: 12656-85-8
13. Tris (2-chloroethyl) phosphate (TCEP)	CAS No: 115-96-8
14. 2,4-Dinitrotoluene (2,4-DNT)	CAS No: 121-14-2
15. Chromium trioxide	CAS No: 1333-82-0
16. Acids generated from chromium trioxide and their oligomers - Group containing:	
• Chromic acid	CAS No: 7738-94-5
• Dichromic acid	CAS No: 13530-68-2
• Oligomers of chromic acid and dichromic acid	
17. Formaldehyde, oligomeric reaction products with aniline (technical MDA)	CAS No: 25214-70-4
18. Bis(2-methoxyethyl) ether (diglyme)	CAS No: 111-96-6
19. 2,2'-dichloro-4,4'-methylene dianiline (MOCA)	CAS No: 101-14-4
20. Dichromium tris(chromate)	CAS No: 24613-89-6
21. Strontium chromate	CAS No: 7789-06-2
22. Potassium hydroxyoctaoxodizincatedichromate	CAS No: 11103-86-9
23. Pentazinc chromate octahydroxide	CAS No: 49663-84-5

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