

Waste Management

School Safety Advisor
School of Chemistry
UCD

Waste

- Who's responsibility is waste?



School waste procedures

- School hazardous waste management plan
 - School policy - enforced in all labs
 - Clear SOPs for each waste type
- Minimizes cost
 - Prevents the over classification of waste
- Ensures legal compliance
 - H&S, environmental protection and transport

Trying to prevent



Trying to prevent



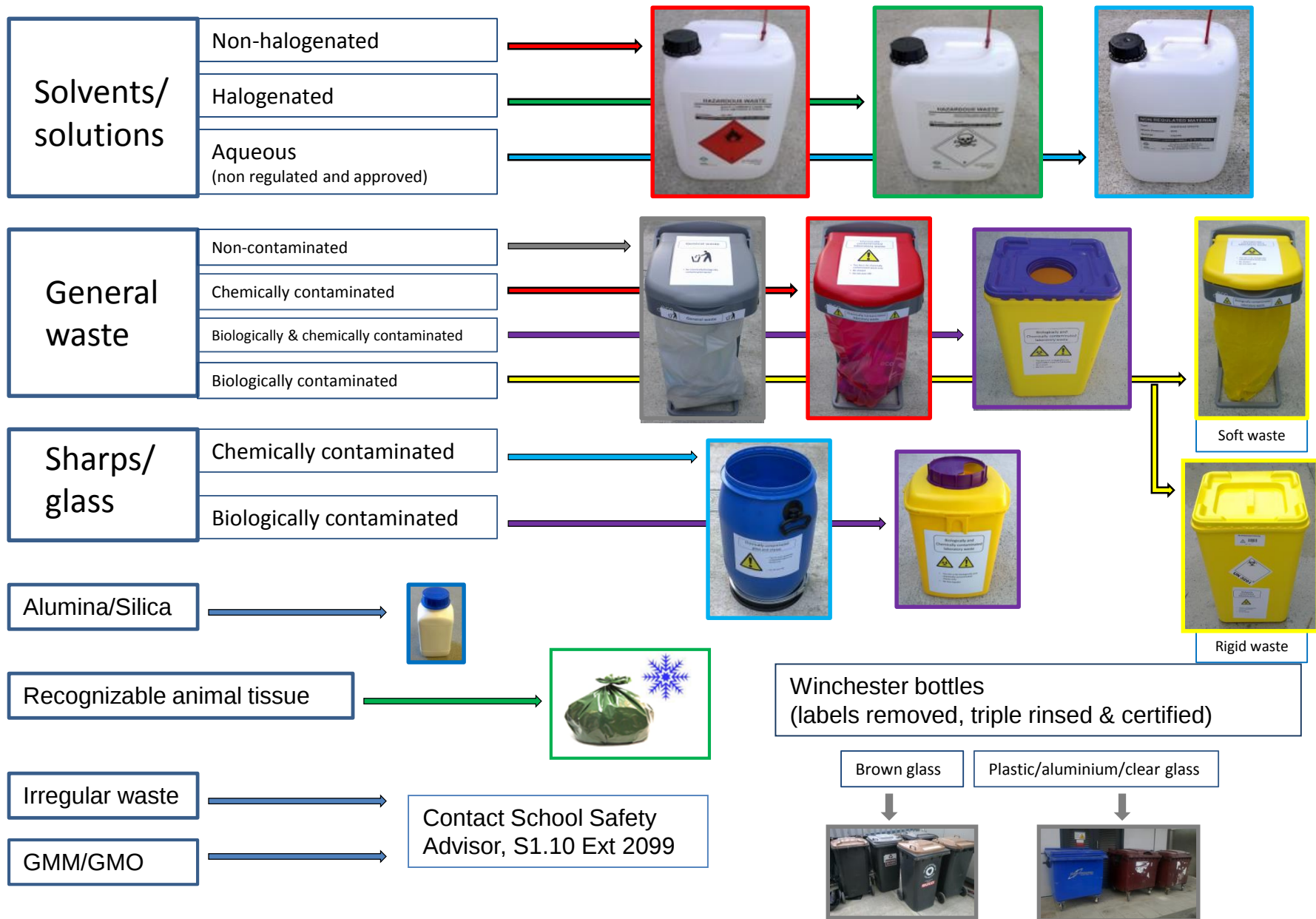
Trying to prevent



Trying to prevent



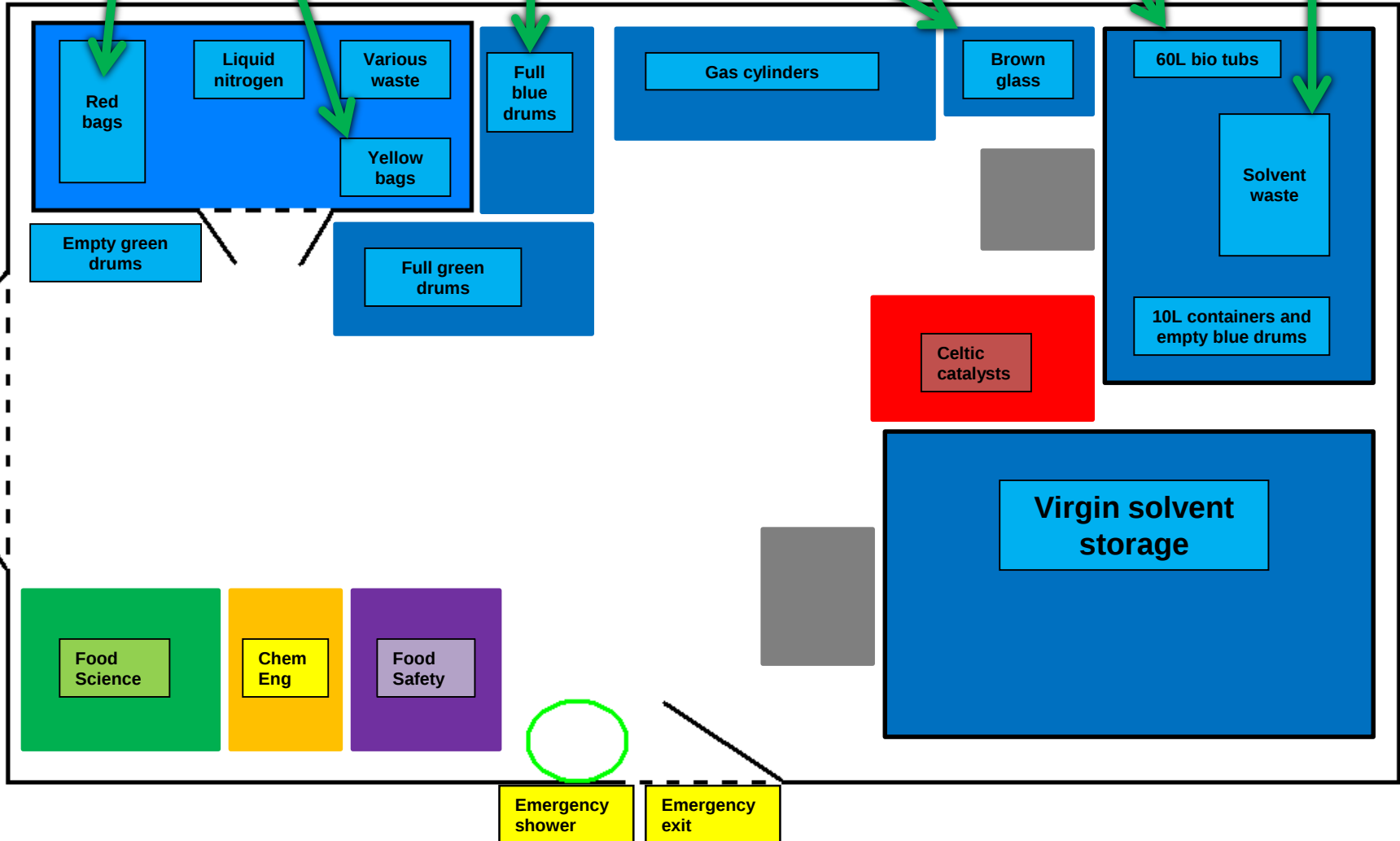
School of Chemistry hazardous waste streams flowchart



Waste compound



School of Chemistry waste



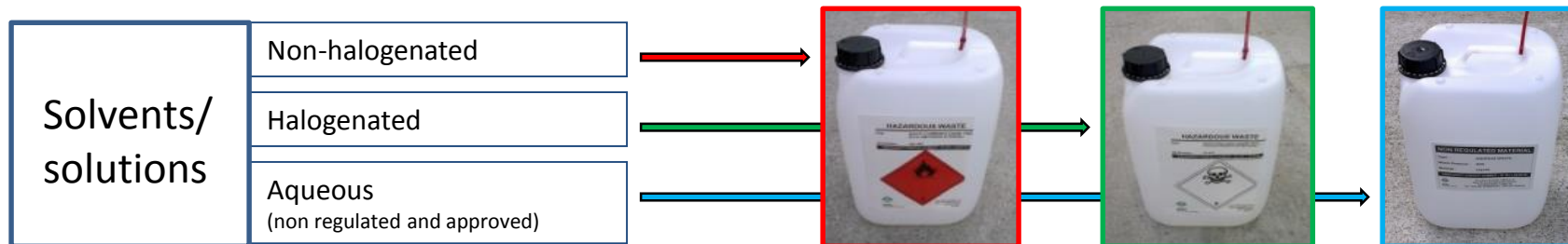
Barcode tracking

- All waste containers are barcoded for tracking purposes



- Containers scanned into the system
 - Records: Date, type of waste & research group
- Acts as a deterrent to misuse of the system

School of Chemistry hazardous waste streams flowchart



Procedure for using 10L waste containers

- Order container on eProcurement
- Collect from Stores
 - Scanned as per group in waste tracking system
- Use to collect waste
 - Store and use sensibly in your lab space
- Only fill to 90% - leave 10% ullage space
- Bring to Stores using lock out lift

Note on Aqueous waste

- Aqueous waste must be neutralised



→ Not acceptable!

Solvents/solutions



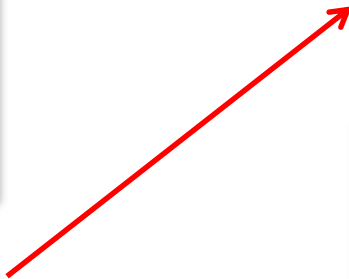
€18.80/10L



€21.30/10L



€19.60/10L



What happens to this waste?

Shipped to Belgium

Incinerated @ ~1600°C



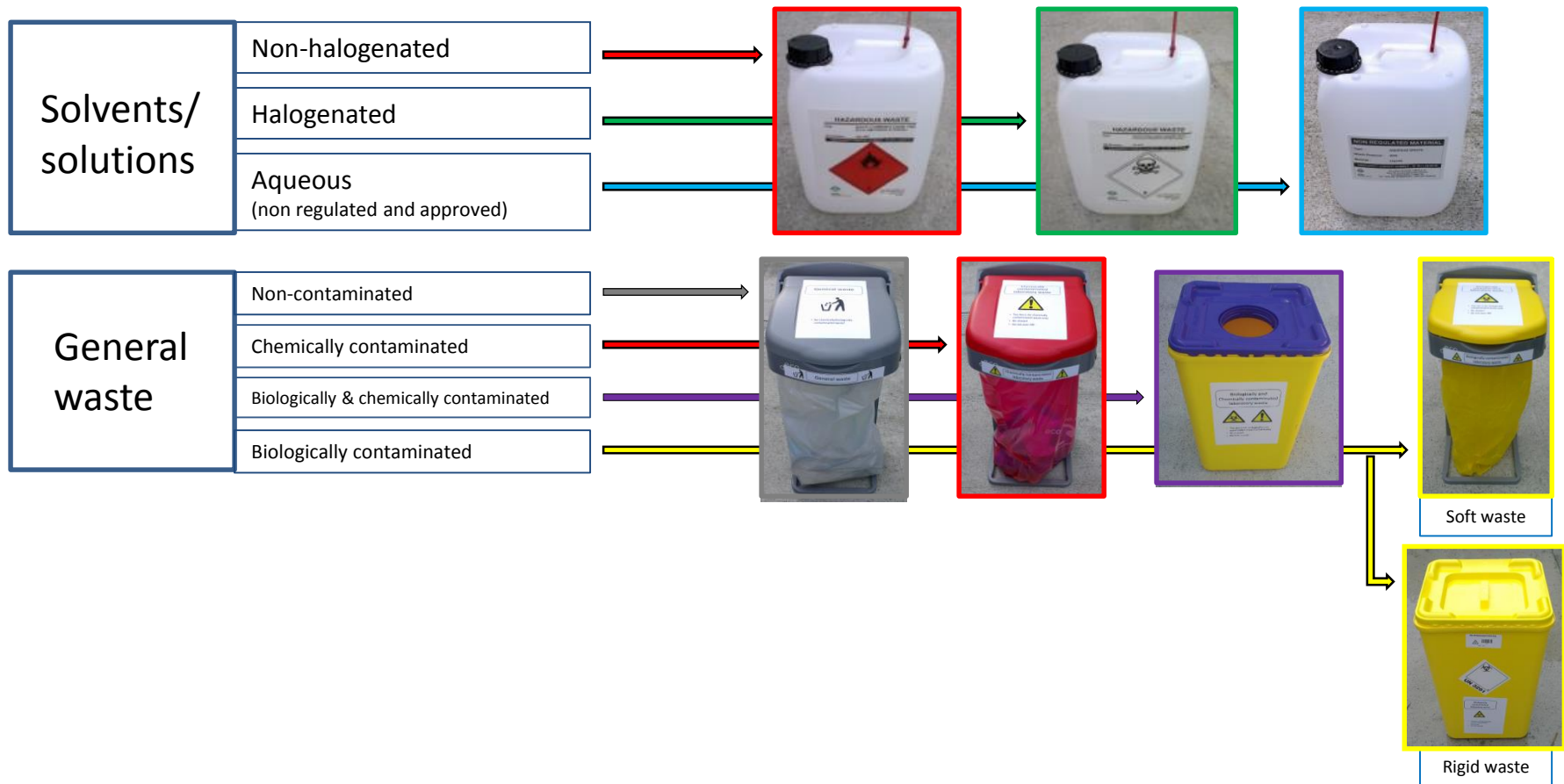
Note on liquid waste

- DO NOT ALTER LABELS!!!



Not acceptable!

School of Chemistry hazardous waste streams flowchart



Non-contaminated waste

- Anything not chemically or biologically contaminated
 - Wrappings
 - Paper
 - No disposable gloves
- Collected by cleaners or...
- Cardboard boxes, etc. 



Chemically contaminated waste

- Red bags on stands
- General lab waste only
 - No free liquids
 - No bottles of chemicals
 - No sharps!



Procedure for disposing of chemical waste

- Order container on eProcurement
- Collect from Stores
 - Scanned as per group in waste tracking system
- Use to collect waste
 - Store and use sensibly in your lab space
- Only fill to 2/3
- Close and seal the bag
- Bring to Stores using lock out lift

Notes on chemical waste

- No Sharps!
 - Or anything which can pierce the bag
- Recommend using a small tub for pipette tips etc



– Lid on → red bags

Notes on chemical waste

- Try not to be wasteful
 - High cost and carbon footprint



Chemical waste in stores compound

- Always follow instructions from Stores personnel



€102.42/drum

What happens
to this waste?

Shipped to
Belgium

Incinerated @
~1600°C

Biologically contaminated waste

- Yellow bags on stands
- General lab waste only
 - No free liquids
 - No chemicals
 - No sharps!
 - Nothing that could pierce the bag
- Legally “potentially infectious”
- SOP same as chemically contaminated

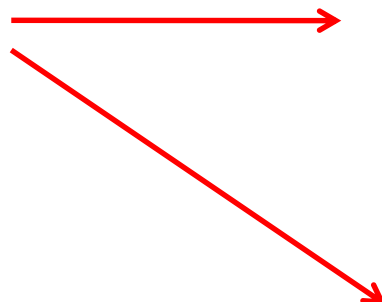


Biological waste in stores compound



- UN approved container for the transport of potentially infectious waste
 - Cannot be torn or ripped
- Autoclaved in Kildare @ €1.25/kg
 - Then put into landfill

Rigid biologically contaminated waste



- 30L and 60L tubs
- Use responsibly
- Close and seal
- Bring to Stores

Autoclaved in Kildare
@ €1.25/kg

Chemically and biologically contaminated waste

- For waste which is unavoidably both chemically and biologically contaminated

- Fill
- Use responsibly
- Close and seal
- Bring to Stores



€2.50/kg

What happens to this waste?

Shipped to Belgium

Incinerated @ ~1600°C

- Follow instructions of Stores personnel

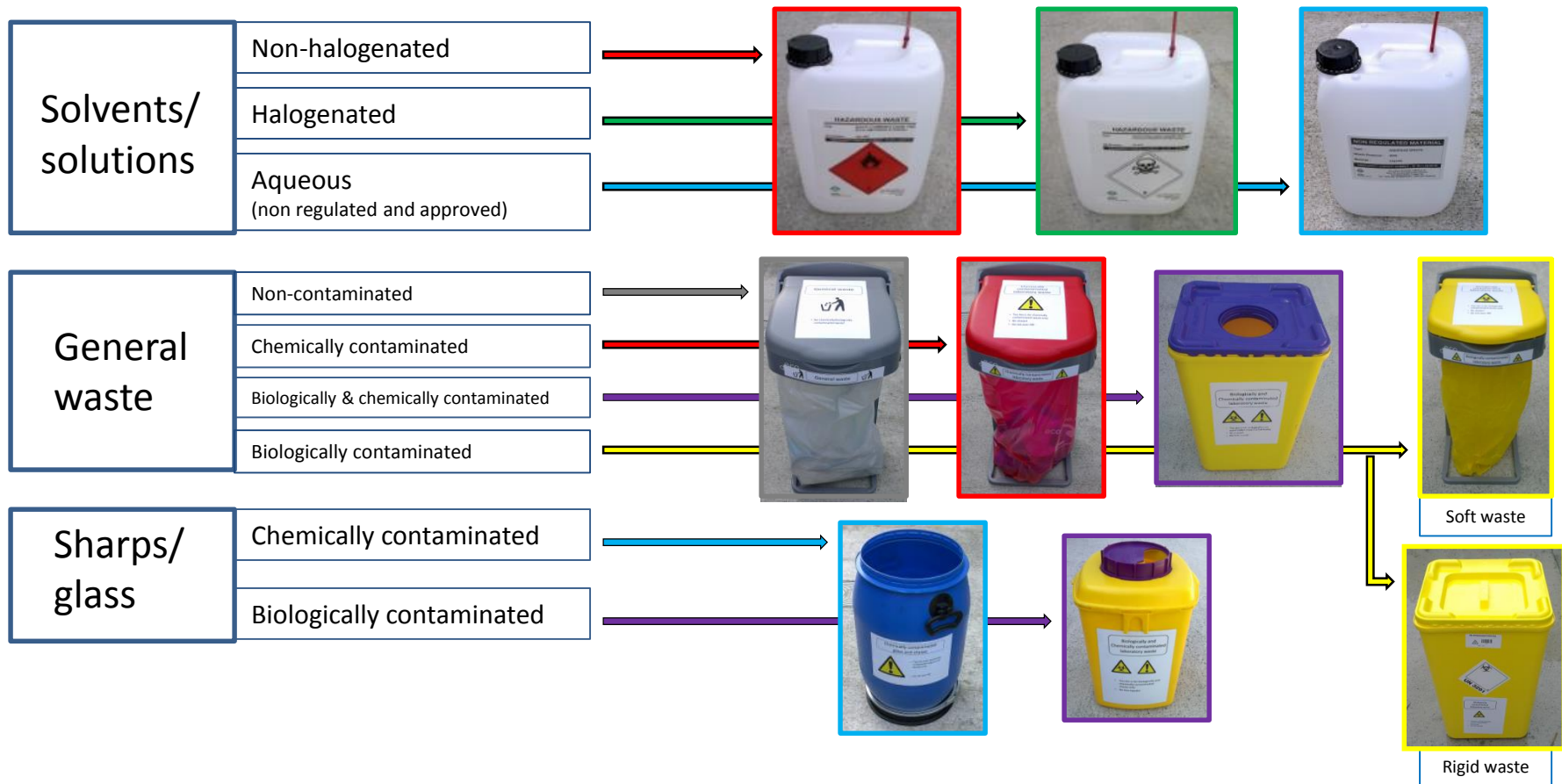
Biological waste in stores compound

- Always follow instructions from Stores personnel



Beside the shelves on the left.

School of Chemistry hazardous waste streams flowchart



Chemically contaminated glass/sharps

- Fill
- Use responsibly
 - No free liquids
- Close and seal
- Bring to Stores



€85.36/each



Incinerated in Belgium

Biologically and/or chemically contaminated sharps

- Fill
- Use responsibly
 - No free liquids
- Close and seal
- Bring to Stores



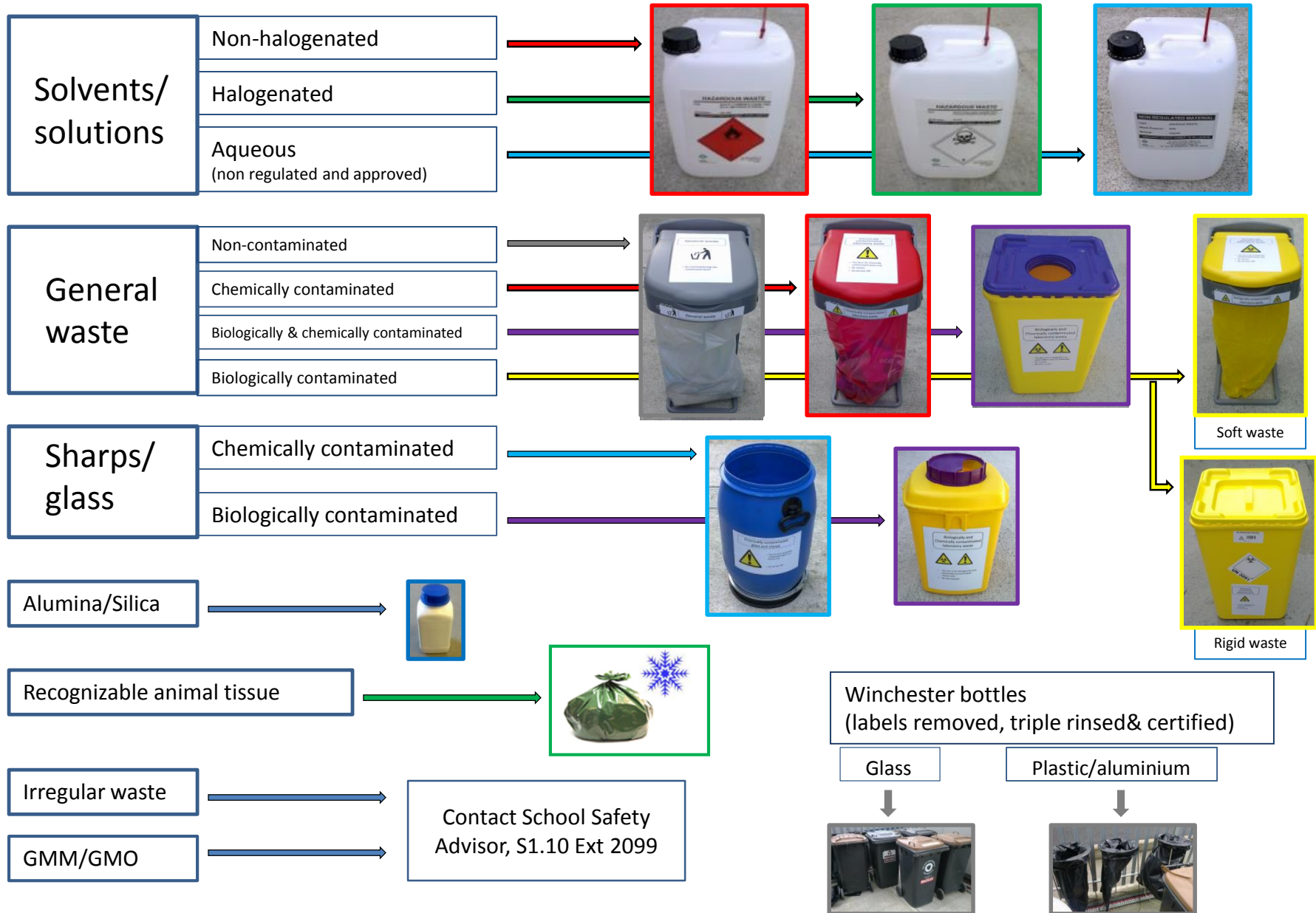
€2.50/kg

What happens to this waste?

Shipped to Belgium

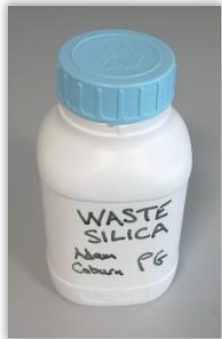
Incinerated @ ~1600°C

School of Chemistry hazardous waste streams flowchart



Waste alumina/silica

- Reuse an alumina/silica container
- Label as “waste alumina” or “waste silica” and your name and group
- Close and seal
- Bring to stores



Recognisable animal tissue

- Contact Adam Coburn
- Not only considered potentially infectious
- Not generally produced



- Into green bag, labelled → freezer

Genetically Modified Material

- Contact School Safety Advisor
- Require license to work with material

Empty winchesters and bottles, etc

- Emptied, triple rinsed and labels removed & certified as per UCD policy

Brown glass



All recycled

Plastic, Aluminium, clear glass, plastic tubs, etc



Irregular waste

- Anything which does not fit into a waste stream is considered an “irregular laboratory small”



Irregular waste steps

- **1st: label the waste!** (making sure it won't come off)
 - Short description
 - Your name
 - Your research group
 - Hazard symbols/pictograms!
- **2nd: fill out form**
- **3rd: contact School Safety Advisor**
 - Hard copy signed
 - Soft copy emailed

Irregular lab smalls form

Irregular lab smalls waste form

Identifying label on container (this should be written: Group – Producer – Short description):

Produced by:

Group:

Description:

Solvents (if applicable):

Solutes (if applicable): *(including approx. concentrations)*

pH (if applicable):

Hazards:

I declare that the above information is accurate.

Signed:

Date:

Any other issues?

- Contact School Safety Advisor!

Researcher finishing up form

Research worker finishing up form-- CS RES 1

This form can be obtained from the School Office/School Safety Officer and should be completed by the postgraduate research student, signed by the relevant people below and a copy submitted to the School Office and the School Safety Advisor. The laboratory and facilities used should be left clean, tidy and safe on completion of research work within the School.

RESEARCHER CHECKLIST	Y	N
Is the bench space clean, cleared and left in a safe manner?		
Have the under-bench units been cleaned and left in a safe manner?		
Have the drawers been cleared and cleaned and left in a safe manner?		
Donate any remaining chemicals/synthesized compounds to your colleagues/supervisor?		
Have you removed and disposed of your chemical waste in the correct manner?		
Have you tidied your fumehood workspace in a safe and correct manner?		
Have you cleared data stored on instruments/computers etc.?		
Have you cleaned equipment used in these areas?		
Have you returned keys for the building, laboratory, lockers etc.?		

Notes:

Name: _____

Laboratory room number/s used: _____

I understand that the forms relating to the examination of my thesis will not be presented to the appropriate Faculty Board for Research degrees, until such time as this form is signed by ALL persons indicated below, in the order given.

Student Name: _____

Supervisor: _____

School Safety Advisor: _____

A copy of this completed form should be given to the School Safety Advisor and to the School Office

**NO RESEARCHER WILL BE ALLOWED GRADUATE
WITHOUT FIRST COMPLETING THIS FORM**

School of Chemistry hazardous waste streams flowchart

