

SCHEDULE 1  
ACTIVITIES, INSTALLATIONS AND MOBILE PLANT

PART 1  
ACTIVITIES  
CHAPTER 4  
THE CHEMICAL INDUSTRY

*Interpretation of Chapter 4*

In Part A of the Sections of this Chapter, “producing” means producing in a chemical plant by chemical processing for commercial purposes substances or groups of substances listed in the relevant sections.

SECTION 4.1  
ORGANIC CHEMICALS

**Part A**

- (a) Producing organic chemicals such as—
- (i) hydrocarbons (linear or cyclic, saturated or unsaturated, aliphatic or aromatic);
  - (ii) organic compounds containing oxygen, such as alcohols, aldehydes, ketones, carboxylic acids, esters, ethers, peroxides, phenols, epoxy resins;
  - (iii) organic compounds containing sulphur, such as sulphides, mercaptans, sulphonic acids, sulphonates, sulphates and sulphones and sulphur heterocyclics;
  - (iv) organic compounds containing nitrogen, such as amines, amides, nitrous-, nitro- or azo-compounds, nitrates, nitriles, nitrogen heterocyclics, cyanates, isocyanates, di-isocyanates and di-isocyanate prepolymers;
  - (v) organic compounds containing phosphorus, such as substituted phosphines and phosphate esters;
  - (vi) organic compounds containing halogens, such as halocarbons, halogenated aromatic compounds and acid halides;
  - (vii) organometallic compounds, such as lead alkyls, Grignard reagents and lithium alkyls;
  - (viii) plastic materials, such as polymers, synthetic fibres and cellulose-based fibres;
  - (ix) synthetic rubbers;
  - (x) dyes and pigments;
  - (xi) surface-active agents
- (b) Producing any other organic compounds not described in paragraph (a).
- (c) Polymerising or co-polymerising any unsaturated hydrocarbon or vinyl chloride (other than a pre-formulated resin or pre-formulated gel coat which contains any unsaturated hydrocarbon) which is likely to involve, in any period of 12 months, the polymerisation

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or co-polymerisation of 50 tonnes or more of any of those materials or, in aggregate, of any combination of those materials.

- (d) Any activity involving the use in any period of 12 months of one tonne or more of toluene di-isocyanate or other di-isocyanate of comparable volatility or, where partly polymerised, the use of partly polymerised di-isocyanates or prepolymers containing one tonne or more of those monomers, if the activity may result in a release into the air which contains such a di-isocyanate monomer.
- (e) The flame bonding of polyurethane foams or polyurethane elastomers.
- (f) Recovering—
  - (i) carbon disulphide;
  - (ii) pyridine or any substituted pyridine.
- (g) Recovering or purifying acrylic acid, substituted acrylic acid or any ester of acrylic acid or of substituted acrylic acid.

## **Part B**

- (a) Unless falling within Part A of this Section, any activity involving in any period of 12 months—
  - (i) the use of less than 1 tonne of toluene di-isocyanate or other di-isocyanate of comparable volatility or, where partially polymerised, the use of partly polymerised di-isocyanates or prepolymers containing less than 1 tonne of those monomers; or
  - (ii) the use of 5 tonnes or more of diphenyl methane di-isocyanate or other di-isocyanate of much lower volatility than toluene di-isocyanate or, where partly polymerised, the use of partly polymerised di-isocyanates or prepolymers containing 5 tonnes or more of these less volatile monomers;where the activity may result in a release into the air which contains such a di-isocyanate monomer.
- (b) Cutting polyurethane foams or polyurethane elastomers with heated wires.
- (c) Any activity for the polymerisation or co-polymerisation of any pre-formulated resin or pre-formulated gel coat which contains any unsaturated hydrocarbon, where the activity is likely to involve, in any period of 12 months, the polymerisation or co-polymerisation of 100 tonnes or more of unsaturated hydrocarbon.

## **Part C**

Nil

### *Interpretation of Section 4.1*

In this Section, “pre-formulated resin or pre-formulated gel coat” means any resin or gel coat which has been formulated before being introduced into polymerisation or co-polymerisation activity, whether or not the resin or gel coat contains a colour pigment, activator or catalyst.

## *SECTION 4.2*

### *INORGANIC CHEMICALS*

## **Part A**

- (a) Producing inorganic chemicals such as–
- (i) gases, such as ammonia, hydrogen chloride, hydrogen fluoride, hydrogen cyanide, hydrogen sulphide, oxides of carbon, sulphur compounds, oxides of nitrogen, hydrogen, oxides of sulphur, phosgene;
  - (ii) acids, such as chromic acid, hydrofluoric acid, hydrochloric acid, hydrobromic acid, hydroiodic acid, phosphoric acid, nitric acid, sulphuric acid, oleum and chlorosulphonic acid;
  - (iii) bases, such as ammonium hydroxide, potassium hydroxide, sodium hydroxide;
  - (iv) salts, such as ammonium chloride, potassium chlorate, potassium carbonate, sodium carbonate, perborate, silver nitrate, cupric acetate, ammonium phosphomolybdate;
  - (v) non-metals, metal oxides, metal carbonyls or other inorganic compounds such as calcium carbide, silicon, silicon carbide, titanium dioxide;
  - (vi) halogens or interhalogen compound comprising two or more of halogens, or any compound comprising one or more of those halogens and oxygen.
- (b) Unless falling within another Section of this Schedule, any manufacturing activity which uses, or which is likely to result in the release into the air or into water of, any halogens, hydrogen halides or any of the compounds mentioned in paragraph (a)(vi), other than the treatment of water by chlorine.
- (c) Unless falling within another Section of this Schedule, any manufacturing activity involving the use of hydrogen cyanide or hydrogen sulphide.
- (d) Unless falling within another Section of this Schedule, any manufacturing activity, other than the application of a glaze or vitreous enamel, involving the use of any of the following elements or compound of those elements or the recovery of any compound of the following elements–
- antimony;
  - arsenic;
  - beryllium;
  - gallium;
  - indium;
  - lead;
  - palladium;
  - platinum;
  - selenium;
  - tellurium;
  - thallium,
- where the activity may result in the release into the air of any of those elements or compounds or the release into water of any substance listed in paragraph 13 of Part 2 of this Schedule.
- (e) Recovering any compound of cadmium or mercury.
- (f) Unless falling within another Section of this Schedule, any manufacturing activity involving the use of mercury or cadmium or any compound of either element or which may result in the release into air of either of those elements or their compounds.
- (g) Unless carried out as part of any other activity falling within this Schedule–
- (i) recovering, concentrating or distilling sulphuric acid or oleum;

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- (ii) recovering nitric acid;
- (iii) purifying phosphoric acid.
- (h) Any manufacturing activity (other than the manufacture of chemicals or glass or the coating, plating or surface treatment of metal) which–
  - (i) involves the use of hydrogen fluoride, hydrogen chloride, hydrogen bromide or hydrogen iodide or any of their acids; and
  - (ii) may result in the release of any of those compounds into the air.
- (i) Unless carried out as part of any other activity falling within this Schedule, recovering ammonia.
- (j) Extracting any magnesium compound from sea water.

**Part B**

Nil.

**Part C**

Nil.

*SECTION 4.3*

*CHEMICAL FERTILISER PRODUCTION*

**Part A**

- (a) Producing (including any blending which is related to their production) phosphorus, nitrogen or potassium based fertilisers (simple or compound fertilisers).
- (b) Converting chemical fertilisers into granules.

**Part B**

Nil.

**Part C**

Nil.

*SECTION 4.4*

*PLANT HEALTH PRODUCTS AND BIOCIDES*

**Part A**

- (a) Producing plant health products or biocides.
- (b) Formulating such products if this may result in the release into water of any substance listed in paragraph 13 of Part 2 of this Schedule in a quantity which, in any period of 12 months, is greater than the background quantity by more than the amount specified in that paragraph for that substance.

**Part B**

Nil.

**Part C**

Nil.

*SECTION 4.5*

*PHARMACEUTICAL PRODUCTION*

**Part A**

- (a) Producing pharmaceutical products using a chemical or biological process.
- (b) Formulating such products if this may result in the release into water of any substance listed in paragraph 13 of Part 2 of this Schedule in a quantity which, in any period of 12 months, is greater than the background quantity by more than the amount specified in that paragraph for that substance.

**Part B**

Nil.

**Part C**

Nil.

*SECTION 4.6*

*EXPLOSIVES PRODUCTION*

**Part A**

- (a) Producing explosives.

**Part B**

Nil.

**Part C**

Nil.

*SECTION 4.7*

*MANUFACTURING ACTIVITIES INVOLVING CARBON DISULPHIDE OR AMMONIA*

**Part A**

- (a) Any manufacturing activity which may result in the release of carbon disulphide into the air.

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- (b) Any activity for the manufacture of a chemical which involves the use of ammonia or may result in the release of ammonia into the air other than an activity in which ammonia is only used as a refrigerant.

**Part B**

Nil.

**Part C**

Nil.

*SECTION 4.8*

*THE STORAGE OF CHEMICALS IN BULK*

**Part A**

Nil.

**Part B**

- (a) The storage in tanks, other than in tanks for the time being forming part of a powered vehicle, of any of the substances listed below except where the total storage capacity of the tanks installed at the location in question in which the relevant substance may be stored is less than the figure specified below in relation to that substance—

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any one or more acrylates	20 tonnes (in aggregate)
acrylonitrile	20 tonnes
anhydrous ammonia	100 tonnes
anhydrous hydrogen fluoride	1 tonne
toluene di-isocyanate	20 tonnes
vinyl chloride monomer	20 tonnes
ethylene	8,000 tonnes.

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**Part C**

Nil