









## Dyes, stains &amp; indicators

Substance	Hazard	Comment
<b>Solid dyes, stains &amp; indicators</b> <i>including:</i> <b>Acridine orange, Congo Red</b> (Direct dye 28), <b>Crystal violet</b> (methyl violet, Gentian Violet, Gram's stain), <b>Ethidium bromide, Malachite green</b> (solvent green 1), <b>Methyl orange, Nigrosin, Phenolphthalein, Rosaniline, Safranin</b>	  TOXIC HEALTH   CORR. IRRIT.  ENVIRONMENT	DANGER: May include one or more of the following statements: fatal/toxic if swallowed/in contact with skin/ if inhaled; causes severe skin burns & eye damage/ serious eye damage; may cause allergy or asthma symptoms or breathing difficulties if inhaled; may cause genetic defects/cancer/damage fertility or the unborn child; causes damages to organs/through prolonged or repeated exposure.
<b>Solid dyes, stains &amp; indicators</b> <i>including</i> <b>Alizarin</b> (1,2-dihydroxyanthraquinone), <b>Alizarin Red S, Aluminon</b> (tri-ammonium aurine tricarboxylate), <b>Aniline Blue</b> (cotton / spirit blue), <b>Brilliant yellow, Cresol Red, DCPIP</b> (2,6-dichlorophenolindophenol, phenolindo-2,6-dichlorophenol, PIDCP), <b>Direct Red 23, Disperse Yellow 7, Dithizone</b> (diphenylthiocarbazono), <b>Eosin</b> (Eosin Y), <b>Eriochrome Black T</b> (Solochrome black), <b>Fluorescein</b> (& disodium salt), <b>Haematoxylin, HHSNNA</b> (Patton & Reeder's indicator), <b>Indigo, Magenta</b> (basic Fuchsin), <b>May-Grunwald stain, Methylene blue, Methyl green, Orcein, Phenol Red, Procion dyes, Pyronin, Resazurin, Sudan I/II/IV dyes, Sudan black</b> (Solvent Black 3), <b>Thymol blue, Xylene cyanol FF</b>	 HEALTH  HARMFUL  ENVIRON.	WARNING: May include one or more of the following statements: harmful if swallowed/in contact with skin/if inhaled; causes skin/serious eye irritation; may cause allergic skin reaction; suspected of causing genetic defects/cancer/damaging fertility or the unborn child; may cause damage to organs/respiratory irritation/drowsiness or dizziness/damage to organs through prolonged or repeated exposure.
<b>Solid dyes, stains &amp; indicators</b> <i>including</i> <b>Acid blue 40, Blue dextran, Bromocresol green, Bromophenol blue, Carmine</b> (cochineal, Natural Red 4), <b>Diazine Green</b> (Janus Green B), <b>Indigo carmine, Litmus, Methyl blue, Methyl red, Murexide</b> (ammonium purpurate), <b>Neutral red, Rhodizonic acid, Sudan III, Thymolphthalein, Toluidine blue, Xylenol orange</b>	LOW HAZARD	Some dyes may contain hazardous impurities and many have not been well researched. Suppliers often vary in the hazard classifications they use. So although the substances listed here are not usually classified as hazardous they should be used with caution. Skin contamination should be avoided.
<b>Dilute solutions of the above</b> <i>Dyes, stains &amp; indicators, usually less than 1% in water or non-aqueous solvents</i>	DEPENDS ON SOLVENT	Aqueous solutions low risk but with non-aqueous solvents risks greater, eg, ethanol [FLAMMABLE if more than 25% (v/v)] or ethanoic acid [CORROSIVE].

**Typical control measures to reduce risk**

- Use the lowest concentration possible and wear eye protection for all but the most-dilute solutions.
- Reduce the risk of skin contact by wearing disposable gloves.
- Avoid powdered dyes & indicators escaping into the air; use a fume cupboard when handling more hazardous ones.
- Avoid naked flames if using flammable solvents.

**Assessing the risks**

- **What are the details of the activity to be undertaken? What are the hazards?**
- **What is the chance of something going wrong?** Eg, could dust from a dye or indicator be breathed in?
- **How serious would it be if something did go wrong?** Eg, would it be more serious than the skin being stained for a few days?
- **How can the risk(s) be controlled for this activity?**  
*eg, can it be done safely? Does the procedure need to be altered? Should goggles or safety spectacles be worn?*

**Emergency action**

- **In the eye** Immediately flood the eye with gently-running tap water for 10 minutes. Consult a medic.
- **Swallowed** Do no more than wash out the mouth with water. Do **not** induce vomiting. Consult a medic.
- **Dust breathed in** Remove the casualty to fresh air. Consult a medic if breathing difficult.
- **Spilt on skin or clothing** Remove contaminated clothing. Wash off the skin with soap and plenty of water. Rinse contaminated clothing.
- **Spilt on floor, bench, etc** Scoop up solids (take care not to raise dust). Wipe up solution spills or any traces of solid with a damp cloth and rinse it well.