

Environmental, Health and Safety

Glossary of Terms

AASS	Acetic Acid Salt Spray	a corrosion test method
ABS	Acrylonitrile-Butadiene-Styrene polymer	
Accelerator	Also called catalyst; chemicals added to accelerate the curing/crosslinking of thermoset materials	
Acid rain	The result of acid gases, especially nitrogen and sulphur oxides, dissolving in atmospheric water and falling as rain	
ACoP	Approved Code of Practice	
Act	A legal document agreed and passed the by UK Government	
Acrylics Resin	Resulting from the polymerisation of derivatives of acrylic acids, including esters of acrylic acid, acrylonitrile, and their copolymers. Also known as acrylic resins and acrylate resins.	
Aliphatic Compound	A class of organic compounds which are composed of open chains of carbon atoms. These include paraffins, olefins, etc.	
Anion	Negatively charged ion that will move towards the anode in an electrochemical process	
Anodising	The controlled oxidation of a metal surface by an electric current. Normally carried out with aluminium or titanium	
Aromatic Compound	A class of organic compounds which contain an unsaturated benzene ring of carbon atoms, including benzene, naphthalene, anthracene and their derivatives.	
Atmospheric pollution	The pollution of the atmosphere by contaminating gases, dusts or vapours.	
Atom	The atom can be considered as the smallest particle of matter though it is composed of electrons, neutrons, and protons.	
Atomisation	The production of a spray pattern of air and powder during spray application of coating powders.	
Baffle Chamber	A box that contains sheets (or baffles) onto which airborne particles impact, lose energy and are collected	
Baghouse	The construction in which fabric filters are housed	
BAT	Best Available Technology	
BATNEEC	Best Available Technology Not Entailing Excessive Cost	
Batelle Method	A method of carrying out an environmental impact assessment by reviewing four categories: Ecology; Pollution; Aesthetics and Human interest	
BCF	British Coatings Federation	

Belt press	Equipment that uses filter belts and pressure to squeeze a mixture of solids and liquids to remove as much liquid as possible
Binder	The resin component of a coating powder.
Biological Oxygen Demand	BOD. The amount of oxygen required for the oxidation of biological systems in the environment
Bio remediation	The use of micro organisms to remove surface contamination; usually used for organic contamination
Blast cleaning	Removal of surface contaminants by use of high pressure air containing abrasive particles.
BOD	Biological Oxygen Demand
BREF Notes	Official best policy guidance notes for BATNEEC
Burn (injury)	An injury caused by dry heat
Cadmium	A very toxic metal whose use and discharge is tightly regulated. Now only used in surface finishing for defence and aerospace applications.
Carbon equivalent	A means of relating the environmental impact, in terms of carbon dioxide equivalents
Carbon Trading	The exchange of permits to discharge carbon dioxide
CASS	Copper Accelerated acetic acid Salt Spray test a corrosion test method
Cation	Positively charged ion that will move towards the cathode in an electrochemical process
CBA	Cost Benefit Analysis
Centrifugal Collector	A method of removing airborne particles by cyclonic action. The particles are collected on the inside of the outer wall of a container
Chalking	The formation of a powdery surface due to the disintegration of the polymer at the coating surface due to weathering. Many epoxy powders will chalk on outdoor exposure.
Chemical Conversion Coating	A treatment, either chemical or electro-chemical, of the metal surface to convert it to another chemical form which provides an insulating barrier of exceedingly low solubility between the metal and its environment but which is an integral part of the metallic substrate. It provides greater corrosion resistance to the metal and increased adhesion of coatings applied to the metal. Examples are phosphate coatings on steel, chromate coatings on aluminium, zinc and zinc-coated materials and anodised films on aluminium.
CFC	Chlorofluorocarbons. Hydrocarbons that also contain chlorine and fluorine atoms.
CFL	Compact Fluorescent Light; a low energy light source
Chemical cleaning	The removal on contamination by the use of chemicals and the generation of a chemical reaction
Chemical Oxygen Demand	COD. The amount of oxygen required to oxidise chemicals in an environment

Chemical Vapour Deposition	CVD. The deposition of a material, normally an element, by the thermal breakdown of an unstable compound of that element.
CHiPS	Chemicals (Hazards Information and Packaging for Supply) Regulations
CHP	Combined Heat and Power – a type of waste incinerator that converts waste into heat and power for reuse
Chroffles	Plastic balls that float on top of a processing solution and reduce the effects of evaporation
Chromates	Chromium compounds containing chromium in the hexavalent form. Extremely corrosive, toxic and carcinogenic. Used for chromium plating and for producing conversion coatings on zinc and aluminium. Because of the hazardous nature of chromates, there is considerable legislation regulating their use and discharge.
Chromium(III) compounds	Chemical compounds containing chromium in its trivalent form and are more benign than hexavalent chromium compounds and should be substituted for hexavalent chromium compounds whenever possible.
Chromium(VI) compounds	Chemical compounds containing chromium in its hexavalent form and known as chromates or dichromates.
CIMAH	Control of Industrial Major Accidents and Hazards – a predecessor to COMAH
Clarification	The removal of solid matter from a liquid to it leave a clear or semi clear
CLP	Classification, Labelling and Packaging of Substances and Mixtures Regulations. The EU legislation that will introduce the Globally harmonised System for Risk and Hazard notification
Coagulation	Change from a mobile fluid to a thickened or pasty mass
COD	Chemical Oxygen Demand
Cohesion	Propensity of a single substance to adhere to itself; the internal attraction of molecular particles toward each other: the force holding a single substance together.
COMAH	Control of Major Accidents and Hazards Regulations; an EU Regulation on the requirements for major incident planning
Composite materials	Materials made from different components such as polymeric resins and glass fibre. They are often lighter and stronger than conventional metal components
Contaminant	Unwanted material, such as dirt and oils, that are on the coating surface or within the coating.
Contamination	Any unwanted material or substance. It is usually associated with another, wanted, material or substance.
Continual Improvement	A method of continually reducing adverse impacts by regular reviewing of processes, products and operations.

Corona charging	The process of inducing an electrical charge on coating powders by passing them through a high voltage electrical field.
Corona discharge	Also known as “gaseous discharge” or “plasma”; a highly ionised gas.
Corrosion	The deterioration of metal or of concrete by chemical or electrochemical reaction resulting from exposure to weathering, moisture, chemicals, or other agents in the environment in which it is placed. The term environmental degradation is often used to embrace corrosion, as defined here, and environmentally induced breakdown of polymeric components and coatings.
CoSHH	Control of Substances Hazardous to Health.
Counterflow rinsing	The removal of unwanted surface contamination by a solvent flowing in the opposite direction the direction of the processing operation
Covalency	A covalent bond is one where each atom donates an electron to form a shared pair of electrons in a molecular orbit
CPVC	Chlorinated Poly Vinyl Chloride polymer
Cr(III)	Trivalent chromium
Cr(VI)	Hexavalent chromium
CRC	Carbon Reduction Commitment
Cross-linking	As applied to polymer systems, cross-linking is the setting up of chemical links between molecular chains to form three-dimensional polymers of much higher molecular weight. Thermosetting powder coating materials cross-link under the influence of heat.
CSR	Corporate Social Responsibility. A document that describes how an organisation will take steps to ensure the local environment and inhabitants are not adversely affected by their operations
CVD	Chemical Vapour Deposition
Cyclone	A spinning mass of air used to centrifugally separate powder from air.
Defra	Department for Food and Rural Affairs. A UK Government ministry
Density	The mass per unit volume of a material, normally expressed as g/ml, g/cm ³ or kg/m ³ .
Directive	A legislative act of the European Union (EU) that needs to be approved and implemented by individual member states’ legislative processes.
Dissolving	The change caused by adding a solvent to a solid to create a solution.
Distillation	The recovery of used solvents by the application of heat and the collection if the solvent vapour in a condenser. Distillation removes impurity
Drag-out	A liquid that is transferred from one process station to another whilst adhering to the workpiece and jig assemblies

DSEAR	Dangerous Substances and Explosive Atmospheres Regulations (2002)
Duty of Care	A legal concept that states that everyone has a responsibility to all others for any actions they undertake
EA	Environment Agency; a Government body that has responsibility for environmental matters. It is currently under the Department for Food and Rural Affairs (Defra)
ECTFE	Ethylene Chloro Tetra Fluoro Ethylene polymer
EDTA	Ethylene Diamine Tetra Acetate; a powerful complexing agent for metals
EfW	Energy from Waste. The use of waste to generate energy, normally by incineration or pyrolysis
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EIA	Environmental Impact Analysis
EIS	Environmental Impact Statement
Electro-Chemical Series	A list of standard oxidation and reduction potentials against the standard hydrogen potential.
Electrodeposition	The deposition of a coating onto a substrate by the passage of an electric current through a suitable electrolyte
Electroless plating	The deposition of a metal onto a substrate without the use of an applied electric current, but by a chemical reduction reaction
Electromagnetic Spectrum	The massive band of electromagnetic waves that pass through the air in different sizes, as measured by wavelength. Different wavelengths have different properties, but most are invisible - and some completely undetectable - to human beings. Only wavelengths that are between 380 and 720 nanometers are visible, producing light. Waves outside the visible spectrum include gamma rays, x-rays, microwaves, and radio waves.
Electrostatic	An electrical charge that can be put onto a particle or body by friction or other methods of rubbing two surfaces together
Electrostatic coating	Process for applying a charged powder to an earthed component.
Electrostatic precipitation	The collection of airborne particles by using electrostatic charges
Electrowinning	The collection and removal of contaminating ions by the use of an electric current. The process is very inefficient because of the low concentrations being collected
ELV Regulations	End of Life Vehicle Regulations
EMAS	Eco Management and Eco System. A voluntary system designed to reward and promote an organisation's environmental credentials. It was originally set up under EU Regulation 1836/93 but it has now been replaced by Council Regulation 761/01

EMS	Environmental Management System. A management tool for assessing the environmental impact of an organisation or operation
Environment	The area in which a species exists
Environmental Audit	an assessment of the impact of a process, product or operation on the environment
Environmental Objectives Plan	A statement within an EMS that describes how reductions in environmental impacts will be achieved
Environmental Policy	A formal statement by an employer of how they will minimise their environmental impacts
Environment Protection Act	UK Act of Parliament covering of environmental protection. It was introduced in 1990.
EPA	Environment Protection Act
Epoxy resins	Cross-linking resins based on the reactivity of the epoxide group. One common type is the resin made from epichlorhydrin and bisphenol A. Aliphatic polyols such as glycerol may be used instead of the aromatic bisphenol A or bisphenol F.
ETS	Emissions Trading Scheme
European Union	A group of European countries that share economic and environmental policies and ideals. There are currently 27 members.
Eutrophication	The formation of algal or fungal bloom in water
Evaporation	The loss of a solvent, usually to the atmosphere
EWC	European Waste Catalogue – coding numbers for classifying waste streams within the EU
Explosion limit	Ratio of powder particles to air at which the mixture can explode or ignite.
Exposure	the level to which contact is made with a hazard
Fabric filter	A filter bag made from a fabric
Fan pattern	Shape of the spray pattern when applying a powder coating with a spray gun.
Faraday Cage Effect	The phenomenon of charged powder particles being attracted to the nearest earth and therefore a resistance to being attracted into enclosed areas such as the internal corners of a box.
Ferrous material	One that is substantially iron based.
Filter press	Equipment that uses filter pads and pressure to squeeze a mixture of solids and liquids to remove as much liquid as possible
Flocculation	A process by which individual particles aggregate into clot-like masses or precipitate into small lumps
Fluidised bed	A suspension of powder in a stream of air. Used to apply coating powders by preheating the component and plunging it whilst hot into the fluidised bed.
Fluorocarbons	Groups of compounds containing fluorine atoms such as fluoroplastics and some solvents of the halogenated type.
FMECA	Failure Mode Effect and Criticality Analysis

Freeboard Ratio	The ratio between the height of the freeboard and the width of the opening in a solvent degreasing unit
Free Radical	A free radical or, put more simply, a radical is a fragment of a molecule which has at least one unpaired electron. Interaction between polymer radicals during curing pairs up the unpaired electrons electrically, neutralising the radicals to produce stable, larger molecules. This process is the basis of cross-linking.
Fusion	The meeting and flowing of powder particles when heated to form a continuous film.
Galvanised steel	Steel coated with zinc, usually either by dipping in molten zinc or by electroplating.
Gaseous discharge	Also known as “corona discharge” or “plasma”; a highly ionised gas
Gelatinous	A viscous or fluffy solid that behaves like jelly or gelatin
GHS	Globally Harmonised System; as new method of identifying Risk and safety phrases. It will be implemented in the UK by 2015
Global Warming Potential	A measurement of the relative ability of a substance, usually a gas, to heat up the Earth.
GMO	Genetically Modified Organism
Green chemistry	Processes and materials that have a reduced or minimised environmental impact
Greenhouse Gas	Gases that have the ability to absorb solar energy (especially thermal Infra Red) and reflect it back to the Earth’s surface. Greenhouse gases include Carbon Dioxide, Nitrogen Oxides, Methane and water vapour
GRP	Glass Reinforced Polymer of Glass Reinforced Plastic
Guidance	A recommendation on how best to implement EU legislation
GWP	Global Warming Potential
HASWA	Health and Safety at Work Act (1974). This is the legislation in the UK under which all prosecutions for health and safety infringements are made
Hazard	The endemic ability of something to do harm
Heavy Metals	Any metal that has a specific gravity of 5.0 or over. Heavy metals are often toxic to organisms and include chromium, copper, lead, mercury, nickel, tin and zinc
Health and Safety at Work Act	UK Act of Parliament covering all aspects of health and safety in the workplace. It was introduced in 1974
Hexavalent Chromium	Chromium containing compounds where the oxidation state, or valence, of the chromium is 6. Hexavalent chromium salts are powerful oxidising agents
HSE	Health, Safety and Environment
HSE	Health and Safety Executive – A UK Government agency that enforces health and safety legislation
Humidity	A measure of the moisture content of air. High humidity can cause water droplets to condense onto cold surfaces.
HVOF	High Volume Oxygen Fuel
HVLP	High Volume Low Pressure

Hydrazine	A reducing agent of formula N_2H_4
Hydrophilic	Attracts or mixes with water
Hydrophobic	Repulses or does not mix with water
Hydroxyl Group	-OH. The chemical group characteristic of hydroxides and alcohols
Hydroxylamine sulphate	a reducing agent of formula $(N_2H_4)(OH)_2.H_2SO_4$
Incineration	The destruction of material by burning or extreme heating
Infra-red Heating	This form of heat is used to cure powder coating by radiation being emitted from electric or gas heaters at a wavelength of between 1 and 100 μm .
Inorganic coating	A surface treatment process that commonly uses metal or non-metallic coatings
Inorganic Compound	Designation of compounds that generally do not contain carbon. Exceptions are carbon monoxide and carbon dioxide and their derivatives. The source is matter other than vegetable or animal, in other words matter of mineral origin. Examples are sulphuric acid and salt (sodium chloride).
Interdiffusion	The passage of atoms from a concentrated source into another atomic medium
Ion	A positively (cation) or negatively (anion) charged particle that is attracted to either an anode or cathode during an electrochemical process
Ion Exchange	The use of a specially prepared resin to remove specific ions from a liquid. They normally replace cations with hydrogen ions and anions with hydroxyl ions
Ionic Bond	Ionic bonds are held together by the attraction of opposite electric charges. A metal will lose electrons to form positive ions, a non-metal will gain electrons to form negative ions, and thus there will be ionic attraction.
Ionic Liquid	Non-water based solvents being developed, amongst other end-uses, for surface coating processes. Ionic liquids have a different Electrochemical Series to aqueous systems and will allow the electrodeposition of metals that cannot be deposited from water based systems
IPC	Integrated Pollution Control
IPPC	Integrated Pollution Prevention and Control
Isocyanate Resin	These resins are based upon the reaction of isocyanates (- N = C = O) and alcohols (- OH) to form a urethane linkage. See <i>polyurethane</i> .
IVD	Ion Vapour Deposition
Just-in-Time	Also known as "Kan Ban" - a manufacturing method where components are delivered in time for use. This eliminates or reduces the need for storing components and allows deliveries to be invoiced when they are required

Kelvin (K)	Unit of measurement for colour temperature. The Kelvin scale starts from absolute zero, which is -273° Celsius.
Kyoto Agreement	An agreement signed in 1997 that will limit and phase out the use of certain greenhouse gases
Landfilling	The disposal of waste by putting it into large holes in the ground
LAPC	Local Air Pollution Control
LCA	Life Cycle Analysis, an assessment of the overall environmental impact on a process or product
LCL	Lower Control Limit. The lowest value a processing variable can be allowed to reach whilst keeping the processing operation within specification
Leopold Matrix	A 2 dimensional matrix that cross references the activities linked to a project that have been identified as having an environmental or human impact against the existing environmental and social conditions that could be possibly affected by the project
LEV	Local Exhaust System
Light	Electromagnetic radiation of which a human observer is aware through the visual sensations that arise from the stimulation of the retina of the eye. This portion of the spectrum includes wavelengths from about 380 to 770 nm. Thus, to speak of ultraviolet light is incorrect because the human observer cannot see radiant energy in the ultraviolet region.
Lime	Calcium Oxide (CaO). Also known as “Calx” or “Slaked Lime”, it is grayish white and reacts violently with water
Limestone	Calcium carbonate (CaCO ₃)
LULUCF	Land Use, Land Use Change and Forestry
MAPP	Major Accident Prevention Policy
Maslov Hierarchy	A pyramid of requirements for the achievement of improved life styles
MCF	Metal Cutting Fluid – a coolant used in the machining of metals; also often known as MWF
Melting	The change of state of a material when it goes from a solid to a liquid without the use of a solvent
Melting Point	The transition temperature at which a solid to a liquid.
Membrane filtration	A method of separating a solvent from dissolved or suspended particles by using a membrane or barrier film.
Metal Finishing	One aspect of surface engineering that involves either the coating of a metallic surface or the coating of a surface with a metal
Metallic bonding	The bonding between metal atoms as the result of sharing electrons. Metallic bonding is responsible for the electrical conductivity of metals.
Micro filtration	The use of a membrane to remove particles that are between 0.1 and 10µm in diameter

MIEX	Magnetic Ion Exchange. A specific type of ion exchange designed to remove organic contamination from an aqueous waste stream
Mill scale	Thick oxide on steel produced during hot processing, e.g. hot rolling.
Molecules	Compounds made up of specific combinations of atoms. Substances may theoretically be divided into single molecules but no further..
Montreal Protocol	An international treaty set up in 1987 under the Vienna Convention for the Protection of the Ozone Layer and designed to phase out the use of certain harmful substances.
MSDS	Material Safety Data Sheet
MWF	Metal Working Fluid – a coolant used in the machining of metals; of the also known as MCF
Nano Filtration	The use of a membrane to remove particles that are between 0.1 and 1 nanometre in diameter
Non ferrous	A material that does not contain iron.
NOx	Nitrogen oxides; usually nitrous oxide (N ₂ O), nitric oxide (NO), nitrogen dioxide (NO ₂) and dinitrogen tetroxide (N ₂ O ₄).
NPK	Fertiliser containing nitrogen, phosphorus and potash
NSS	Neutral salt Spray a corrosion test method
Organic coating	a surface treatment that is normally used for the application of paint or powder coatings
ORP	Oxidation Reduction Potential. The electric potential required to transfer electrons from the oxidant to the reductant
Osmosis	The naturally occurring effect of ions passing from a concentrated to a less concentrated solution
Organic Compound	Designation of any chemical compound containing carbon, usually combined with elements such as hydrogen, oxygen and nitrogen.
Overspray	Powder that does not coat the component when spraying.
Ozone	O ₃ . Another gaseous form of oxygen that helps shield the Earth from harmful solar radiation. It is also a powerful oxidising agent
Ozone depleting agent	substances that react in the atmosphere to reduce the levels of ozone
PAH	Poly Aromatic Hydrocarbons
Particulate	Usually a small and/or airborne particle of size between 5nanometres and 5 millimetres
Painting	A generic term for the application of a solvent based coating onto a substrate.
PBB	Polybrominated biphenyls; a type of flame retardant
PBDE	Polybrominated diphenyl ether; a type of flame retardant
PET	Polyethylene teraphthalate polymer

PET	Product Environmental Template; a method of assessing the environmental impact of a product
Pollution	The addition or inclusion of a substance or material that can do damage or harm to the environment
pH	A measurement of acidity or alkalinity ranging between 0-14. Strong acids have a low pH and strong alkalis have a high pH.
Phosphating	Process for producing a conversion coating by immersing components in a solution containing phosphate chemicals.
Plasma	Also known as “corona discharge” or gaseous discharge; a highly ionised gas
Polyamide Resins	Condensation resins of an amine and an acid, the repeated structural unit in the chain being of the amide type.
Polyester Resins	Group of synthetic resins which are polycondensation products of dicarboxylic acids with dihydroxy alcohols. They are therefore a special type of alkyd resin. Oil-free alkyds are a class by themselves. Often these resins are dispersed in a suitable monomer.
Polymer	A substance, the molecules of which consist of one or more structural units repeated any number of times. The name often applies to large molecules produced by any chemical process.
Polyurethanes	A coating polymer made by reacting a polyisocyanate monomer to form a polymer that has a series of urethane linkages.
Polyvinyl Acetate	A colourless thermoplastic, water-insoluble, resinous high polymer derived from the polymerisation of vinyl acetate with a catalyst; used as a latex polymer in certain paints. Abbreviation: PVA and PVAc.
Polyvinyl Chloride	A hard and tough plastic solid. Stabilisers are necessary to prevent discolouration from exposure to light and heat. Used for plastics and coatings. Commonly known as vinyl. Abbreviation: PVC.
Powder Coating	A 100% solids coating applied as a dry powder and subsequently formed into a film with heat.
PP	Polypropylene polymer
PPCA	Pollution Prevention and Control Act (1999). A UK Act of Parliament
PPE	Personal Protective Equipment
Pretreatment	Process of preparing a part for coating, usually involves cleaning and conversion coating processes.
Process Control	Keeping a process within prescribed operating conditions
PVC	Poly Vinyl Chloride
PVD	Plasma Vapour Deposition
PVdF	Poly Vinylidene Fluoride polymer
PTFE	Poly Tetra Fluoro ethylene polymer

Pyrolysis	The thermal decomposition of material in a controlled manner, often to obtain known by-products
REACH	Registration, Evaluation Authorisation and Restriction of Chemicals. An EU Directive that controls the registration and use of chemicals in the EU.
Reclaim powder	Oversprayed powder that has been recovered for reuse.
Recover	To extract certain parts or energy from waste streams. For instance, incineration of waste recovers energy.
Recovery system	Separators and collecting systems that recover unused or re-usable materials for re-use
Recycle	To reuse a material or product but in a different form the original material or product. For instance, a shirt or dress can be recycled as rags.
Regulation	A legislative act of the European Union that becomes immediately enforceable as law in all member states simultaneously. Regulations are distinguished from Directives, which, in principle need to be put into individual member's national laws before they can be implemented
Resin	A polymeric compound. It can be a liquid, as in the case of paints, lacquers and varnishes, or a solid, as in the case of an ion exchange resin
Reuse	To repeat the use of a material or product in its same form. For instance, "drag-out" can be reused as a top-up for a process tank.
Reverse Osmosis	The application of a force to move ions from a less concentrated solution to a more concentrate solution
RIDDOR	Reporting of Injuries, Diseases and dangerous Occurrences Regulations
Rinsing	The removal of unwanted surface contamination by washing, usually in water
Risk	A measurement of the chance an event, such as injury, loss or damage occurring. It is also combination of the likelihood and consequences of a specified hazardous event taking place
Risk Assessment	A formal process to determine the level of risk generated by exposure to a hazard. Risk assessments are an important aspect of health, safety and environment management
Risk Phrase	A series of codes, prefixed by R, that list risks associated with a substance
RoHS	Restriction and Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations.
ROSPA	Royal Society for the Prevention of Accidents
RPE	Respiratory Protective Equipment
Safety Officer	A professional employee who is responsible for ensuring all health and safety policies and procedures are complied with

Safety Phrase	A series of codes, prefixed by S, that list the methods required to ensure the substance is used and stored in a safe manner
Scald	An injury caused by wet heat
SCBA	Self Contained Breathing Apparatus
Scrubber	Plant that is designed to remove unwanted particles and gases prior to discharge to the atmosphere. Scrubbers can be wet or dry, using water or not using water to collect the particles or gases
SDS	Safety Data Sheet
SEA	Strategic Impact Analysis
SED	Solvent Emissions Directive
Settling chamber	A box used to collect airborne particles by reducing their speed. It is very inefficient and requires a lot of space
Six Pack	A set of 6 regulations introduced under the HASAWA in 1992; it comprise regulations on: Display Screen Equipment, Manual Handling, Workplace, Provision of Work Equipment; personal Protective Equipment and Workplace Management
Sludge	A semi solid mixture of finely divided particles and water. A sludge will be typically over 80% water
Slurry	A thin mixture of finely divided particles and water. Similar to a sludge, but containing more water. A slurry will typically contain over 90% water
SMART	Criteria that should be used when setting targets. They should be Specified, Measurable, Achievable Realistic, and Time.
Sodium bisulphite	A reducing agent of formula Na_2HSO_3
Sodium hypochlorite	An oxidising and bleaching agent (NaOCl)
Sodium hydrosulphite	A compound of formula $\text{Na}_2\text{S}_2\text{O}_4$
Solvent degreasing	The removal of unwanted material ("contamination") from the surface of an article by using a solvent
Solvent Emissions Directive	UK legislation introduced in 2007 that limits the use and release of solvents
SOx	Sulphur oxides; usually sulphur dioxide and sulphur trioxide
Specific Gravity	Weight of a given volume of any substance compared with the weight of an equal volume of water. See <i>density</i> . Note: in SI units the term "relative density" is preferred. It is expressed purely as a number, it has no units.
Spray booth	An area where paints, lacquers, varnished and powder coatings are applied by using a spray system
Spray Tower	A tower where waste gases are washed with a spray to remove unwanted particles and gases prior to discharge to atmosphere
Strategic Metal	Certain metals that are essential to industry
Substrate	The surface onto which a coating is to be applied

Surface Finishing	Any operation that alters the appearance or physical or chemical properties of surface. Sometimes known as surface engineering.
Surfactant	A chemical that helps remove material from a surface by reducing the surface tension of the contaminant on the surface.
Surface active agent	see Surfactant.
Surface Tension	The property arising from molecular forces of the surface films of all liquids which tends to alter the contained volume of liquid into a form of minimum superficial area. Surface tension is the reason why some liquids, e.g. water, show a concave meniscus (surface shape); others, e.g. mercury, show a convex meniscus.
Suspension	A mixture of fine particles in a liquid or gas where the particles only settle very slowly.
Sustainability	An ability to endure, or the capacity to be maintained, at a specific level or rate
Task Force	A team of people that has been established to carry out a specific task
TGIC	Triglycidyl isocyanurate; an hazardous curing agent for polyester coatings
Thermoplastic	Capable of being repeatedly softened by heating and hardened by cooling.
Thermosetting	Having the property of undergoing a chemical reaction by the action of heat, catalysts, ultraviolet light, etc., leading to a relatively infusible state.
Thixotropic	Adjective which describes a full-bodied material that undergoes a reduction in viscosity when shaken, stirred or otherwise mechanically disturbed and which readily recovers the original full-bodied condition on standing. Non-drip paints are thixotropic.
Transfer Efficiency	The application transfer efficiency of materials is important to reduce waste. The higher the transfer efficiency, the better. It is calculated in powder coating by measuring the amount sprayed compared to the amount applied.
Trike	Trichloroethylene – a hazardous solvent used for degreasing metals before coating.
UCL	Upper Control Limit. The maximum value a processing variable can be allowed to reach whilst keeping the processing operation within specification
Ultrafiltration	The removal of particles that are between 1 and 100 nanometres in diameter from a solvent stream by the pressurised passage of the solvent through a membrane with very small holes in it, leaving the impurities on one side of the membrane and the clean solvent on the other.
Ultraviolet radiation	Radiation with a shorter wavelength than visible light and is capable of breaking chemical bonds. Can cause fading of coloured coatings but can also be used for rapid curing of thermoset materials.

Urethane Coatings	Coating vehicles containing a polyisocyanate monomer and reacted in such a manner as to yield polymer containing any ratio, proportion, or combination of urethane linkages, active isocyanate groups, or polyisocyanate monomer. The reaction products may contain excess isocyanate groups available for further reaction at the time of application or may contain essentially no free isocyanate as supplied. See <i>Polyurethanes</i> .
Vacuum deposition	The coating of a substrate by using low pressure or vacuum techniques
Vacuum evaporation	A technique used to evaporate a solvent by creating a vacuum to reduce the solvent's boiling point so it evaporates both faster and at a lower temperature
Van de Waals Force	A weak attractive or repulsive force between two or more molecules. A Van de Waals force can be either internal to the molecule (intra molecular) or between different molecules (inter molecular).
Velocity	Speed
Venturi	A device which uses a restriction in the air flow to create a forced airflow within a chamber where there is a reduction in the fluid pressure and a corresponding increase in its velocity
Vinyl Acetate Plastics	Plastics based on resins made by the polymerisation of vinyl acetate or- copolymerisation of vinyl acetate with other unsaturated compounds, the vinyl acetate being in greatest amount by mass. See <i>polyvinyl acetate</i> .
Virgin powder	Coating powder that has not been previously used.
Viscosity	The inbuilt resistance to flow which a fluid (i.e. liquid or gas) possesses. Water pours easily, it has a low viscosity. Treacle has a much higher viscosity. Viscosity is caused by the frictional forces created between molecular layers of a fluid when the fluid moves. If the different layers of fluid are moving with different velocities, viscous forces come into play, tending to slow down the faster moving layers and to increase the velocity of the slower moving layers. A coefficient of viscosity is defined which is measured in Newton seconds per square metre (SI units); the older (c.g.s.) unit is the poise. $1 \text{ centipoise} = 10^{-3} \text{Ns/m}^2$.
VOC	Volatile Organic Compound
Volatile Organic Compound	Solvents, thinners and diluents based upon organic liquids that rapidly evaporate.
WAC	Waste Acceptance Criteria. A guidance on where waste streams can be disposed, using waste treatment sites
Waste	Products or materials that have no further use and cannot be reused, recycled or recovered.
WEEE	Waste Electrical and Electronic Equipment Regulations
Wetter	A surfactant.