Agrochemical Terms:

O

Odor threshold - The lowest concentration of a substance in air that can be smelled. Odor thresholds are highly variable because of the differing ability of individuals to detect odors.

Office of General Council (OGC) - This EPA Office provides legal advice and service to all organizational elements of EPA, including the Office of Pesticide Programs.

Office of Pesticide Programs (OPP) - This EPA Office registers and regulates pesticides.

On-Scene Coordinator (OSC) - The federal official responsible for the coordination of a hazardous materials response action, as specified in individual Regional Contingency Plans. OSCs are predesignated by EPA for inland areas and by the U.S. Coast Guard for coastal areas. The OSC coordinates all federal containment, removal, and disposal efforts and resources during a pollution incident. The OSC is the point of contact for the coordination of federal efforts with those of the local response community. The OSC has access to extensive federal resources, including the National Strike Force, the Environmental Response Team, and Scientific Support Coordinators. The OSC can be a source of valuable support and information to the community.

OPCumRisk - A computer program developed at ORD's NHEERL to determine relative potency estimates and PoDs for the index chemical.

Organically grown - Food, feed crops, and livestock grown within an intentionally-diversified, self-sustaining agro-ecosystem. In practice, farmers build up nutrients in the soil using compost, agricultural wastes, and cover crops instead of synthetically derived fertilizers to increase productivity, rotate crops, weed mechanically, and reduce dramatically their dependence on the entire family of pesticides. Farmers must be certified to characterize crops as organically grown and can only use approved natural and synthetic biochemicals, agents, and materials for three consecutive years prior to harvest. Livestock must be fed a diet that includes grains and forages that have been organically grown and cannot receive hormones, sub-therapeutic antibiotics, or other growth promoters.

Organism - Any living being, whether plant, mammal, bird, insect, reptile, fish, crustacean, aquatic or estuarine animal, or bacterium.

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Fax: 0086-519-85153975
Email: sales@gjbiochem.com
www.pesticides-china.com

Other pesticide chemicals - Chemicals registered as pesticides but which are produced and marketed mostly for other purposes, i.e., multi-use chemicals. Notable examples are sulfur, petroleum products (e.g., kerosene, oils and distillates), salt and sulfuric acid.

P

Parts per billion (ppb) - One ppb is comparable to one kernel of corn in a filled, 45-foot silo, 16 feet in diameter.

Parts per million (ppm) - One ppm is comparable to one drop of gasoline in a tankful of gas (full-size car).

Parts per trillion (ppt) - One ppt is comparable to one drop in a swimming pool covering the area of a football field 43 ft. deep.

Pathogen - A bacterial organism typically found in the intestinal tracts of mammals, capable of producing disease.

Pathway of exposure - The physical course a pesticide takes from the source to the organism exposed (e.g., through food or drinking water consumption or residential pesticide uses).

Permeability - The ease with which water, or other fluid, passes through a substance.

Permissible Exposure Limit (PEL) - Workplace exposure limits for contaminants established by OSHA.

Permit - A legal document issued by state and/or federal authorities containing a detailed description of the proposed activity and operating procedures as well as appropriate requirements and regulations. The permitting process includes provisions for public comment.

Pesticide - Substances intended to repel, kill, or control any species designated a "pest" including weeds, insects, rodents, fungi, bacteria, or other organisms. The family of pesticides includes herbicides, insecticides, rodenticides, fungicides, and bactericides.

Pesticide Chemical Code (PC Code) - A six-digit number assigned by OPP to identify pesticide chemicals. Also called a Shaughnessy code. The PC Code is often used for searching computer databases because it is short and easy to enter.

Pesticide Document Management System (PDMS) - The EPA-maintained collection of documents of regulatory significance to pesticides, including submitted studies.

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Fax: 0086-519-85153975
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PDMS Bibliography - A list of citations of selected PDMS documents and/or studies, usually for a single pesticide active ingredient, sorted by MRID number or guideline number.

Pesticide residue - A film of pesticide left on the plant, soil, container, equipment, handler, etc. after application of the pesticide.

Pesticide user expenditures - Dollar value of purchases by persons or businesses applying pesticides, such as farmers, commercial pesticide applicators and homeowners. Reported numbers are nominal values for the years indicated, i.e., not adjusted or indexed for inflation.

Pesticide usage - Refers to actual applications of pesticides, generally in terms of quantity applied or units treated.

PH - The measure of acidity or alkalinity of a chemical solution, from 0-14. Anything neutral, for example, has a pH of 7. Acids have a pH less than 7, bases (alkaline) greater than 7.

Pheromones - Biochemicals used to disrupt the mating behavior of insects

Point of Departure (PoD) - A dose that can be considered to be in the range of observed responses, without significant extrapolation. A PoD can be a data point or an estimated point that is derived from observed dose-response data. A PoD is used to mark the beginning of extrapolation to determine risk associated with lower environmentally relevant human exposures.

Point source - A stationary location or fixed facility such as an industry or municipality that discharges pollutants into air or surface water through pipes, ditches, lagoons, wells, or stacks; a single identifiable source such as a ship or a mine.

Pollution - Any substances in water, soil, or air that degrade the natural quality of the environment, offend the senses of sight, taste, or smell, or cause a health hazard. The usefulness of the natural resource is usually impaired by the presence of pollutants and contaminants.

Pollution prevention - Actively identifying equipment, processes, and activities which generate excessive wastes or use toxic chemicals and then making substitutions, alterations, or product improvements. Conserving energy and minimizing wastes are pollution prevention concepts used in manufacturing, sustainable agriculture, recycling, and clean air/clean water technologies.

Potable water - Raw or treated water that is considered safe to drink.

Tel: 0086-519-85153978
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Private applicator - A category of applicator certification for farmers and/or employees such that they can legally apply restricted use pesticides or supervise others doing so who are not certified.

Professional market - Sales of pesticides for application to industrial/commercial/governmental sectors, homes and gardens by certified/commercial applicators.

Public comment period - The time allowed for the members of an affected community to express views and concerns regarding an action proposed to be taken by EPA, such as a rulemaking, permit, or Superfund remedy selection.

Public water system - Any water system that regularly supplies piped water to the public for consumption, serving at least an average of 25 individuals per day for at least 60 days per year, or has at least 15 service connections.

Publicly Owned Treatment Works (POTW) - A municipal or public service district sewage treatment system.

Q

Quality assurance/quality control - A system of procedures, checks, audits, and corrective actions to ensure that all technical, operational, monitoring, and reporting activities are of the highest achievable quality.

R

Raw water - Intake water prior to any treatment or use

Receiving waters - A river, lake, ocean, stream, or other body of water into which wastewater or treated effluent is discharged.

Recharge Area - An area of land where there is a net annual transfer of water from the surface to ground water; where rainwater soaks through the earth to reach an aquifer.

Recycling - Reusing materials and objects in original or changed forms rather than discarding them as wastes.

Reduced-risk pesticides - These are pesticides which : (1) reduce pesticide risks to human health; (2) reduce pesticide risks to nontarget organisms; (3) reduce the potential for contamination of valued, environmental resources, or (4) broaden adoption of IPM or makes it more effective.

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Reference dose (RfD) - The particular concentration of a chemical that is known to cause health problems. A standard that also may be referred to as the acceptable daily intake.

Reference Files System (REFS) - An OPP database that provides data on pesticide active ingredients, registrants, and products (including product types, formulations, transfers, etc.)

Registrant - A pesticide manufacturer that has registered a pesticide product.

Registration - Formal listing with EPA of a new pesticide before sale or distribution. EPA is responsible for pre-market licensing of pesticides on the basis of data demonstrating no unreasonable adverse health or environmental effects when applied according to approved label directions.

Registration Jacket - Also Registration File. A file of documents supporting registration for each pesticide product. These files contain product labels, OPP and registrant correspondence, OPP science reviews and other information.

Relative Potency Factor (RPF) - The ratio of the toxic potency of a given chemical to that of an index chemical in the CAG . Relative potency factors are used to convert exposures of all chemicals in the CAG into their exposure equivalents of the index chemical.

Release - Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of a hazardous or toxic chemical, or extremely hazardous substance.

Remedial action - The actual construction or clean-up phase of a Superfund site cleanup.

Repellant - Any chemical which can be used to drive away insects, bears, dogs, or other pests.

Request Identification Number (RIN) - A number assigned by EPA to identify your Freedom of Information Act request (e.g., 1234-99). Refer to the RIN when contacting EPA concerning your request.

Residue studies - Research which examines the recalcitrance, bioavailability, toxicity, solubility, etc. of pesticide residues. More information on this topic can be found at the FDA site for residual pesticides monitoring.

Restricted use pesticides - A pesticide that can be sold to or used by only certified applicators.

Risk - A measure of the chance that damage to life, health, property, or the environment will occur.

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Risk assessment - A methodology used to examine all possible risks involved with a particular product or organism. Risk assessment can be divided into four parts: identification of hazards, dose response (how much exposure causes particular problems (ie.cancer, convulsions, death), exposure assessment (determining how much exposure will be received by people during particular activities), and risk characterization (determining a probability that a risk will occur).

Risk communication - The process of exchanging information about levels or significance of health or environmental risk.

Risk factor - A characteristic (e.g., race, sex, age, obesity) or variable (e.g., smoking, exposure) associated with increased chance of toxic effects. Some standard risk factors used in general risk assessment calculations include average breathing rates, average weight, and average human life span.

Rodenticide - A pesticide or other agent used to kill rats and other rodents or to prevent them from damaging food, crops, or forage.

Route of exposure - The way a chemical enters an organism after contact (e.g., ingestion, inhalation, or dermal absorption).

Rusts - Red or brown disease spots on plants caused by fungi.

S

Safer pesticides - Pesticides designated as “safer”(or “reduced-risk”) by EPA due to favorable characteristics affecting health or environmental risks, resistance management and integrated pest management. Safer pesticides may be conventional pesticides posing less risk or be biopesticides with unique modes of action, low use volume, lower toxicity, target species specificity or natural occurrence.

Science reviews - OPP reviews various pesticide studies, such as toxicology, environmental fate and groundwater, ecological effects, and product chemistry.

Sediment - Topsoil, sand, and minerals washed from the land into water, usually after rain or snow melt. Sediments collecting in rivers, reservoirs, and harbors can destroy fish and wildlife habitat and cloud the water so that sunlight cannot reach aquatic plants. Loss of topsoil from farming, mining, or building activities can be prevented through a variety of erosion-control techniques.

Sewer - A channel or conduit that carries wastewater and stormwater to a treatment plant or receiving waters. "Sanitary" sewers carry household, industrial, and commercial waste. "Storm" sewers carry runoff from rain or snow.

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Slurry - A pumpable mixture of solids and fluid.

Solid waste - As defined under RCRA, any solid, semi-solid, liquid, or contained gaseous materials discarded from industrial, commercial, mining, or agricultural operations, and from community activities. Solid waste includes garbage, construction debris, commercial refuse, sludge from water supply or waste treatment plants, or air pollution control facilities, and other discarded materials.

Source reduction - The design, manufacture, purchase, or use of materials (such as products and packaging) to reduce the amount or toxicity of garbage generated. Source reduction can help reduce waste disposal and handling charges because the costs of recycling, municipal composting, landfilling, and combustion are avoided. Source reduction conserves resources and reduces pollution.

Specialty biocides - In this report, estimates are provided for end uses as follows: swimming pools, spas and industrial water treatment (excludes chlorine/hypochlorites which are reported separately); disinfectants and sanitizers (including industrial/institutional applications and household cleaning products); and other specialty biocides (including biocides for adhesives and sealants, leather, synthetic latex polymers, metal working fluids, paints and coatings, petroleum products, plastics and textiles). These are categories of end usage which are covered by FIFRA. There are other end uses of specialty biocides which are regulated under FFDCA and are not covered in this report. (such as hospital/medical antiseptics, food/feed preservatives and for cosmetics/toiletries).

Standard Industrial Classification Code (SIC Code) - A method of grouping industries with similar products or services and assigning codes to these groups.

Steady state inhibition - The time point at which continued dosing at the same level results in no further increase in cholinesterase inhibition.

Surface water - All water naturally open to the atmosphere (rivers, lakes, reservoirs, ponds, streams, seas, estuaries) and all springs, wells, or other collectors directly influenced by surface water.

Surfactant - A detergent compound that promotes lathering.

Sustainable agriculture - Environmentally friendly methods of farming that allow the production of crops or livestock without damage to the farm as an ecosystem, including effects on soil, water supplies, biodiversity, or other surrounding natural resources. The concept of sustainable agriculture is an "intergenerational" one in which we pass on a conserved or improved natural resource base instead of one which has been depleted or polluted. Terms often associated with farms or ranches that are self-sustaining include "low-input," organic, "ecological," "biodynamic," and "permaculture."

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Synergism - The cooperative action of two or more organisms producing a greater total result than the sum of their independent effects; chemicals or muscles in synergy enhance the effectiveness of one another beyond what an individual could have produced.

T

Ten-to-the-Minus-Sixth (10^{-6}) - Used in risk assessments to refer to the probability of risk. Literally means a chance of one in a million. Similarly, ten-to-the-minus-fifth means a probability of one in 100,000, and so on.

Teratogen - A substance capable of causing birth defects.

Threshold Limit Value (TLV) - The concentration of an airborne substance that a healthy person can be exposed to for a 40-hour work week without adverse effect; a workplace exposure standard.

Tolerance - Permissible residue level for pesticides in raw agricultural produce and processed foods. Whenever a pesticide is registered for use on a food or feed crop, a tolerance must be established. EPA establishes the tolerance levels, which are enforced by the Food and Drug Administration and the Department of Agriculture.

Tolerance - The maximum amount of a pesticide allowable in a food or feed product before it is considered adulterated, usually specified in parts per million.

Tolerance - 1) The ability of a living thing to withstand adverse conditions, such as pest attacks, weather extremes, or pesticides. 2) The amount of pesticide that may safely remain in or on raw farm products at time of sale.

Total Dissolved Solids (TDS) - The quantity of dissolved material in a given volume of water.

Tox One-liner - An OPP summary of toxicology reviews for a particular active ingredient. For each entry, the One-liner lists a citation, MRID Numbers or Accession Numbers, brief study results, and document numbers identifying the OPP tox reviews. Other information is also listed.

Toxic chemical - Substances that can cause severe illness, poisoning, birth defects, disease, or death when ingested, inhaled, or absorbed by living organisms.

Toxic Release Inventory (TRI) - A database of annual toxic releases from certain manufacturers compiled from EPCRA Section 313 reports. Manufacturers must report annually to EPA and the states the amounts of almost 350 toxic chemicals and 22 chemical categories that they release directly to air, water, or land, inject underground, or

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transfer to off-site facilities. EPA compiles these reports and makes the information available to the public under the "Community Right-to-Know" portion of the law.

Toxic substance - A chemical or mixture that can cause illness, death, disease, or birth defects. The quantities and exposures necessary to cause these effects can vary widely. Many toxic substances are pollutants and contaminants in the environment.

Toxicity - The capacity of a chemical to do harm to an organism by other than mechanical means.

> **Acute toxicity**: The poisoning that occurs after a single exposure (effects shortly after exposure).
>
> **Chronic Toxicity**: The effects of long term or repeated low level exposures to a toxic substance (cancer, liver damage, reproductive disorders, etc.).

Toxicity testing - Biological testing (usually with an invertebrate, fish, or small mammal) to determine the adverse effects, if any, of a chemical, compound, or effluent.

Trade secret - Any confidential formula, pattern, process, device, information, or set of data that is used in a business to give the owner a competitive advantage. Such information may be excluded from public review.

U

Underground Storage Tank (UST) - A tank and any underground piping connected to the tank that has 10% or more of its volume (including pipe volume) beneath the surface of the ground. USTs are designed to hold gasoline, other petroleum products, and hazardous materials.

USDA - U.S. Department of Agriculture

V

Vapor - The gas given off by substances that are solids or liquids at ordinary atmospheric pressure and temperatures.

Vapor dispersion - The movement of vapor clouds or plumes in the air due to wind, gravity, spreading, and mixing.

Vent - The connection and piping through which gases enter and exit a piece of equipment.

Volatile - Any substance which evaporates quickly.

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Volatile Organic Compounds (VOC) - Any organic compound which evaporates readily to the atmosphere. VOCs contribute significantly to photochemical smog production and certain health problems.

W

Water Quality Standard (WQS) - The combination of a designated use and the maximum concentration of a pollutant which will protect that use for any given body of water. For example, in a trout stream, the concentration of iron should not exceed 1 mg/l.

Water table - The boundary between the saturated and unsaturated zones. Generally, the level to which water will rise in a well (except artesian wells).

Wellhead protection area - A protected surface and subsurface zone surrounding a well or well field that supplies a public water system and through which contaminants could likely reach well water.

Wetlands - Areas that are soaked or flooded by surface or ground water frequently enough or for sufficient duration to support plants, birds, animals, and aquatic life. Wetlands generally include swamps, marshes, bogs, estuaries, and other inland and coastal areas, and are federally protected. Wetlands frequently serve as recharge/discharge areas and are known as "nature's kidneys" since they help purify water. Wetlands also have been referred to as natural sponges that absorb flood waters, functioning like natural tubs to collect overflow. Wetlands are important wildlife habitats, breeding grounds, and nurseries because of their biodiversity. Many endangered species as well as countless estuarine and marine fish and shellfish, mammals, waterfowl, and other migratory birds use wetland habitat for growth, reproduction, food, and shelter. Wetlands are among the most fertile, natural ecosystems in the world since they produce great volumes of food (plant material).

Wildlife refuge - An area designated for the protection of wild animals, within which hunting and fishing are either prohibited or strictly controlled.

Wood preservatives - Pesticide active ingredients used in treatment of wood to protect it from insects, fungi and other pests. In this report, a total is presented for usage of wood preservative chemicals in industrial plants, the bulk of which is for pressure treatment. The major categories of pesticide chemicals included in this report as industrial wood preservatives are water borne preservatives (primarily arsenicals), oil borne preservatives (such as copper naphthenate and pentachlorophenol), creosote, creosote-coal tar and creosote petroleum.

Wood treatment facility - An industrial facility which treats lumber and other wood products for outdoor use. The process involves use of chromated copper arsenate and other toxic chemicals which are regulated as hazardous materials.

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Fax: 0086-519-85153975
Email: sales@gjbiochem.com
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Worker protection standards - Standards designed to reduce the risks of illness or injury resulting from workers' and handlers' occupational exposures to pesticides used in the production of agricultural plants on farms or in nurseries, greenhouses, and forests and also from the accidental exposure of workers and other persons to such pesticides. They require workplace practices designed to reduce or eliminate exposure to pesticides and establish procedures for responding to exposure-related emergencies.

Z

Z-list - OSHA's Toxic and Hazardous Substances Tables (Z-1, Z-2, and Z-3) of air contaminants; any material found on these tables is considered hazardous.

zone of saturation - The layer beneath the surface of the land in which all openings are filled with water.

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