

Environmental Health & Safety

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**RECOMMENDED
PROCEDURES
FOR
MANAGING
BLOOD SPILLS
AND
TRAUMA SCENES**



I. INTRODUCTION

These procedures have been developed by Environmental Health & Safety (EHS) to assist University employees and contractors to safely respond to non-research laboratory related human blood spills, spills of other potentially infectious materials (OPIM) and crime or trauma scenes on University property and in University vehicles. **For research laboratory related spills, contact EHS immediately.**

Any questions about these procedures should be directed to EHS at (410) 704-2949.

Blood, OPIM spills, and crime or trauma scenes that occur indoors, in University vehicles or in the outside environment must be immediately decontaminated to prevent the potential transmission of communicable disease. The circumstances associated with these events can vary greatly depending on the source, the volume and the type of contact surface. A small amount of blood, if splashed, can cover a large surface area. A large volume, if undisturbed on a flat surface, can pool in a relatively small area. **Because of the unpredictable nature of spills and the various volumes, each incident must be quickly and carefully evaluated by a designated and trained individual (i.e. EHS or a trained Housekeeping Supervisor) for potential risks to cleanup personnel and the environment.**

A minimum of two (2) trained individuals are required to safely perform these procedures at all times.



Blood, OPIM spill and crime/trauma scene clean-up should only be performed by trained employees who are current with their annual OSHA Bloodborne Pathogens training and have appropriate personal protective equipment (PPE) and clean up materials.



Immediately contact EHS during normal business hours at (410) 704-2949 or through TUPD after duty hours, on weekends or holidays for assistance in managing large spills, crime or trauma scenes.

DO NOT attempt to begin decontamination if the size or complexity of the contamination is beyond the capacity of immediately available campus resources. If, at any time, the cleanup or decontamination exceeds available resources:

- Physically (and visually, if required) isolate the area with barrier tape or other warning materials
- Restrict all entry
- Immediately contact EHS for assistance

II. **DEFINITIONS**

Antiseptic: Destroy microorganisms on living tissue.

Biohazardous Waste: Any waste material contaminated with blood or other potentially infectious material (OPIM).

Blood: Human blood, human blood components, and products made from human blood. (Also See **Feminine Hygiene Products.**)

Bloodborne Pathogens: Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

Contaminated: The presence or the reasonably anticipated presence of blood or OPIM on an item or surface.

Decontamination: The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Disinfectant: Destroys microorganisms on inanimate objects.

Feminine Hygiene Products: OSHA has issued a letter stating that they do not include soiled sanitary napkins and other feminine hygiene products in the definition of regulated waste because they are designed so as to prevent the release of liquid or semi-liquid blood or the flaking off of dried blood. Therefore, employees handling such wastes are not covered by the Bloodborne Pathogens Rule solely due to that duty. However, OSHA does expect that containers for soiled sanitary products be lined with a plastic or wax paper bag and that employees will be provided suitable gloves for removal of the bags from the waste container.

Micro-Encapsulation Absorbent: A dry material that rapidly converts a liquid into a solid. This material greatly simplifies blood spill clean-up and can be obtained through any lab safety vendor.

Other Potentially Infectious Materials (OPIM):

- The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids. Feces and urine are only potentially infectious if visibly contaminated with blood;
- Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and,
- HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

Personal Protective Equipment (PPE): Specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) are not intended to function as protection against a hazard are not considered to be PPE. Examples of PPE are: safety glasses, splash goggles, disposable gloves, respirators, disposable coveralls, and disposable shoe covers.

Regulated Waste/Special Medical Waste (SMW): Liquid or semi-liquid blood or OPIMs; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

Sanitizing: Reduces the number of surface microbes to an acceptable level.

Sharps: Any object contaminated by blood or other potentially infectious material that can cut or penetrate human skin including, but not limited to:

- ✓ Broken glass
- ✓ Capillary tubes
- ✓ Knives, razors, etc.
- ✓ Needles
- ✓ Surgical instruments
- ✓ Syringes with attached needles

Sharps Container: A leak and puncture proof container capable of being tightly closed that is red and is labeled with the word “Biohazard” and the biohazard symbol. Filled sharps containers are regulated for disposal and must be disposed of through Dowell Health Center and **NOT** as domestic waste.

Source Individual: Any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee. Examples include, but are not limited to, hospital and clinic patients; clients in institutions for the developmentally disabled; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices and nursing homes; human remains; and individuals who donate or sell blood or blood components.

Spill: Any unintentional release of human blood, OPIM and/or tissue into a non-controlled environment.

- **Small Spill:** A volume that is easily managed with a minimal amount of decontamination equipment and materials.
- **Large Spill:** A volume that would require more than one person, large amounts of decontamination equipment and material, and/or contamination of objects that would prove difficult to decontaminate, (i.e., a large area blood splatter, carpeting, rugs, mattresses, furniture, electronic gear).
- **Major Spill:** Large amounts of blood and/or tissue (usually as a result of a homicide or suicide).

Sterilization: Kills all surface microbes.

Trained Personnel: An individual who has successfully completed Bloodborne Pathogens (BBP) training in accordance with OSHA 29 CFR 1910.130(g) (2) in the last 365 days.

Universal Precautions: An approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

III. RECOMMENDED SPILL SUPPLIES

a. Personal Protective Equipment (PPE):

As a minimum, the following PPE should be worn by clean-up personnel when responding to a blood, OPIM spill or a crime/trauma scene:

- i. Two pair of disposable gloves
- ii. Eye protection
 - Splash Shield; or,
 - Splash Goggles
- iii. Protective clothing such as a lab coat or disposable coveralls
- iv. Disposable shoe covers or rubber boots
- v. N95 Disposable Respirator (If required)

b. Clean-up Materials:

- i. A freshly prepared 3% solution of DuPont “RelyOn” multipurpose disinfectant cleaner; or, a freshly prepared (<24 hrs old) 10% bleach solution (1 part household bleach: 9 parts clean water); or, another EPA approved disinfectant.
 - When the spill is on carpeting or other fabric surfaces that can't be disposed of, use an alternate EPA registered disinfectant that will not damage the fabric.
 - **DO NOT use “RelyOn” or bleach on carpeting or other fabric surfaces unless carpeting or fabric covered surfaces will be disposed. These products will damage carpeting & fabrics.**
- ii. Spray bottles for applying disinfectant to small areas of contamination
- iii. Garden pump sprayers for applying disinfectant to large contaminated areas
- iv. Micro-encapsulated absorbent (kitty litter, diatomaceous earth or sorbent pads, etc.)
- v. Mops & buckets
- vi. Nylon scrub pads and brushes
- vii. Paper towels or other appropriate cleaning material
- viii. Red biohazard waste bags (large & small sizes) & fiber boxes
- ix. Scrapers or putty knives

- x. Box cutters or carpet knives for cutting out contaminated areas of fabrics and other porous materials.
- xi. Bio-hazard warning signs and labels
- xii. Leak-proof red biohazard sharps containers
- xiii. Dustpan and brush and/or tongs/forceps for picking up contaminated sharps and/or human body parts or tissue.
- xiv. Disinfectant liquid hand sanitizer or hand sanitizer wipes.
- xv. Barrier Tape (“CAUTION - Do Not Enter”)
- xvi. Duct Tape
- xvii. Opaque 6-Mil polyethylene plastic sheeting for wrapping large contaminated objects and for use as a visual barrier, if required.
- xviii. Other tools and materials as required.



If at any time there is an accidental blood or OPIM contact with unprotected skin, immediately wash the area with soap and water. If the exposure is on abraded skin, in the eyes, mouth or nose immediately notify your supervisor and follow procedures for reporting contained in the Towson University Bloodborne Pathogens Exposure Control Plan.

IV. CLEAN-UP PROCEDURES

a. Indoor or Outdoor Spills

- ✓ Identify and clearly mark all areas of suspected contamination with barrier tape or other warning materials.
- ✓ Immediately restrict all entry into the contaminated areas to avoid spreading contamination.



To prevent additional contamination, ALL individuals who entered the area of contamination without appropriate PPE (i.e., Police, EMS, Maintenance, etc.) should remain in the immediate area until thoroughly inspected to ensure they have not been contaminated, especially footwear. Decontaminate as required or remove contaminated clothing and place into a red biohazard bag and give to owner.

- ✓ Don appropriate PPE.
- ✓ As you enter the area, don't step on any obvious contamination.

- ✓ Inspect the scene for:
 - Sharp objects such as glass, knives, needles etc., which may be contaminated with blood or OPIM. These items should be collected with tongs or forceps and placed into an appropriate puncture resistant sharps container.
 - Tissue or other small body parts. These should be collected with tongs or forceps and placed into an appropriate biohazard bag.
- ✓ Saturate the blood contaminated surfaces with a freshly prepared disinfectant solution using a garden sprayer or spray bottle. Allow at least 20 minutes disinfectant contact time for effective disinfection.
 - On hard surfaces, an approved micro-encapsulating agent may be applied to pooled blood or liquid OPIM so that the bulk of the contamination can be removed before disinfecting the surface.
 - Carpets, rugs, curtains, mattresses, pillows, furniture cushions, upholstery, cloth car seats and other fabrics saturated with blood or OPIM should be discarded and replaced.
 - On large areas of fabric covered materials such as carpeting, upholstered furniture, etc., after thoroughly saturating contaminated areas with disinfectant, cut and remove all blood/OPIM contaminated sections and place into a red biohazard bag.



NEVER wash blood or other OPIM down a sewer or storm drain. These materials should be solidified with an appropriate micro- encapsulation absorbent and swept up and placed into a red plastic biohazard bag for disposal.

- ✓ Absorb and remove all traces of the spill with paper towels or other acceptable materials (Micro-encapsulation absorbent). Be careful not to contaminate the outside of the spray bottle.
- ✓ Use procedures to minimize any aerosolization of blood or contaminated items.
- ✓ Re-spray the cleaned area with the disinfectant solution and allow to air dry completely.

- ✓ Place all waste materials, including used cleaning materials and disposable PPE, into a red plastic biohazard bag. Tightly seal with duct tape. Be careful not to contaminate the outside of the bag. Place the sealed biohazard bag into another biohazard bag and tightly seal (e.g., double-bag). Mattresses, rugs, and other large items that cannot fit into a biohazard bag should be tightly wrapped and sealed in 2 layers of 6-mil poly sheeting after being decontaminated. Place biohazard labels in multiple conspicuous locations.
 - Non-disposable cleaning materials such as mops, nylon scrub pads and brushes, buckets, spray bottles and garden sprayers should be disinfected by saturating with bleach solution and air dried.
 - Carpet/Upholstery Machine Hoses, Wands & Tanks
 - Mist or spray disinfectant solution into wand head while vacuum unit is running to decontaminate the interior surfaces of hoses and wands. Spray and wipe exterior wand and hose surfaces clean with disinfectant solution and allow to air dry.
 - Wastewater should be drained and disposed via the sanitary sewer system.
 - Waste tank surfaces should be decontaminated by spraying with disinfectant solution; wiped clean and re-spraying all interior surfaces with disinfectant solution and allowing to air dry.
- ✓ Once the scene has been decontaminated and the disinfectant has completely air dried, the area is safe for entry.
- ✓ Biohazardous waste is a regulated waste and must be disposed of in a controlled manner. See Section V. DISPOSAL OF CONTAMINATED MEDICAL WASTE below for proper biohazard waste disposal procedures.
- ✓ Wash hands and all exposed skin with soap and water when clean-up is complete. If soap and water are not immediately available, use an alcohol-based hand sanitizer.



After the area has been properly decontaminated and disinfected, thoroughly re-inspect the area for any residual or missed contamination. Re-decontaminate as necessary.

b. Towson University Vehicles

- ✓ Immediately take the vehicle out of service. Move or tow to a safe location for decontamination as necessary.
- ✓ Identify and clearly mark all contaminated areas.
- ✓ Restrict all entry into the contaminated vehicle to avoid spreading contamination.



To prevent additional contamination, ALL individuals who entered the area of contamination without appropriate PPE (i.e., Police, EMS, Maintenance, etc.) should remain in the immediate area until thoroughly inspected to ensure they have not been contaminated, especially footwear. Decontaminate as required or remove contaminated clothing and place into a red biohazard bag and give to owner.

- ✓ Don appropriate PPE.
- ✓ As you enter the vehicle, avoid any obvious contamination.
- ✓ Check the vehicle for:
 - Sharp objects such as glass, knives, needles etc., which may be contaminated with blood or OPIM. These items should be collected with tongs or forceps and placed into an appropriate puncture resistant sharps container.
 - Tissue or other small body parts. These should be collected with tongs or forceps and placed into an appropriate biohazard bag.
- ✓ Saturate the contaminated area with a freshly prepared (<24 hrs old) disinfectant solution and allow at least 20 minutes contact time.
 - On hard surfaces, an approved microencapsulating agent may be applied to pooled blood or liquid OPIM so that the bulk of the contamination can be removed before disinfecting the surface.
 - Fabric covered car seats or trim saturated with blood or OPIM should be removed, discarded and replaced.



NEVER wash blood or other OPIM down a sewer or storm drain. These materials should be solidified with an appropriate micro-encapsulation absorbent and swept up and placed into a red plastic biohazard bag for disposal.

- ✓ Using paper towels or other appropriate cleaning materials, wipe up all visible contamination residue and dispose of in a small biohazard bag. Repeat as often as necessary.
- ✓ Re-spray the cleaned area with the disinfectant solution and allow to air dry.
 - Open vehicle windows to accelerate the drying process.
 - If contamination has gotten into inaccessible areas of the vehicle, leave the vehicle out of service and contact EHS for guidance.
- ✓ Place all waste materials, including used cleanup materials and disposable PPE, into a red plastic biohazard bag. Be careful not to contaminate the outside of the bag. Place the sealed biohazard bag into another biohazard bag and seal (e.g., double-bag).
 - Non-disposable cleaning materials such as mops, nylon scrub pads and brushes, buckets, spray bottles and garden sprayers should be disinfected by saturating with bleach solution and air dried.
 - Carpet/Upholstery Machine Hoses, Wands & Tanks
 - Mist or spray disinfectant solution into wand head while vacuum unit is running to decontaminate the interior surfaces of hoses and wands. Spray and wipe exterior wand and hose surfaces clean with disinfectant solution and allow to air dry.
 - Wastewater should be drained and disposed via the sanitary sewer system.
 - Waste tank surfaces should be decontaminated by spraying with disinfectant solution; wiped clean and re-spraying all interior surfaces with disinfectant solution and allowing to air dry.
- ✓ Once the vehicle has been decontaminated and the disinfectant has completely air dried, the vehicle is safe and may be placed back in service.
- ✓ Biohazardous waste is a regulated waste and must be disposed of in a controlled manner. See Section V. DISPOSAL OF CONTAMINATED MEDICAL WASTE below for proper biohazard waste disposal procedures.
- ✓ Wash hands and all exposed skin with soap and water when clean-up is complete. If soap and water are not immediately available, use an alcohol-based hand sanitizer.



After the vehicle has been properly decontaminated and disinfected, thoroughly re-inspect for any residual or missed contamination. Re-decontaminate as necessary.

V. **Crime or Suicide Trauma Scenes**



If the scene has been designated as a “crime scene” by Police, decontamination will be restricted until such time as the official investigation has concluded. Check with the Police Incident Commander prior to entering the area to begin decontamination.

- ✓ Identify and clearly mark the areas of suspected contamination with barrier tape or other warning materials.



Depending on the situation, it also may be also necessary to visually isolate the contaminated area until such time as decontamination and clean-up have been completed.

- ✓ Restrict all entry into the contaminated areas to avoid spreading contamination.



To prevent additional contamination, ALL individuals who entered the area of contamination without appropriate PPE (i.e., Police, EMS, Maintenance, etc.) should remain in the immediate area until thoroughly inspected to ensure they have not been contaminated, especially footwear. Decontaminate as required or remove contaminated clothing and place into a red biohazard bag and

- ✓ Don appropriate PPE.
 - Depending on the scope of the contamination, a disposable N-95 respirator may be required.
- ✓ As you enter the contaminated area, don't step on any obvious contamination.

- ✓ Inspect the scene for:
 - Sharp objects such as glass, knives, needles etc., which may be contaminated with blood or OPIM. These items should be collected with tongs or forceps and placed into an appropriate puncture resistant sharps container.
 - Tissue or other small body parts. These should be collected with tongs or forceps and placed into an appropriate biohazard bag.
- ✓ Saturate the area with a freshly prepared disinfectant solution and allow at least 20 minutes contact time.
 - On hard surfaces, an approved microencapsulating agent may be applied to pooled blood or liquid OPIM so that the bulk of the contamination can be removed before disinfecting the surface.
 - Carpets, rugs, curtains, mattresses, pillows, furniture cushions, upholstery, cloth car seats and other fabrics saturated with blood or OPIM should be discarded and replaced.
 - On large areas of fabric covered materials such as carpeting, upholstered furniture, etc., after thoroughly saturating contaminated areas with disinfectant, cut and remove all blood/OPIM contaminated sections and place into a red biohazard bag.
- ✓ Re-spray the cleaned area with the disinfectant solution and allow to air dry completely.



NEVER wash blood or other OPIM down a sewer or storm drain. These materials should be solidified with an appropriate micro- encapsulation absorbent and swept up and placed into a red plastic biohazard bag for disposal.

- ✓ Place all waste materials, including used cleanup materials and disposable PPE, into a red plastic biohazard bag. Be careful not to contaminate the outside of the bag. Place the sealed biohazard bag into another biohazard bag and seal (e.g., double-bag). Mattresses, rugs, and other large items that cannot fit into a biohazard bag should be tightly wrapped and sealed in 2 layers of 6-mil poly sheeting after being decontaminated. Place biohazard labels in multiple conspicuous locations.
 - Non-disposable cleaning materials such as mops, nylon scrub pads and brushes, buckets, spray bottles and garden sprayers should be disinfected by saturating with bleach solution and air dried.
 - Carpet/Upholstery Machine Hoses, Wands & Tanks
 - Mist or spray disinfectant solution into wand head while vacuum unit is running to decontaminate the interior surfaces of hoses and wands. Spray and wipe exterior wand and hose surfaces clean with disinfectant solution and allowed to air dry.
 - Wastewater should be drained and disposed via the sanitary sewer system.
 - Waste tank surfaces should be decontaminated by spraying with disinfectant solution; wiped clean and re-spraying all interior surfaces with disinfectant solution and allowing to air dry.
- ✓ Biohazardous waste is a regulated waste and must be disposed of in a controlled manner. See Section V. DISPOSAL OF CONTAMINATED MEDICAL WASTE below for proper biohazard waste disposal procedures.
- ✓ Wash hands and all exposed skin with soap and water when clean-up is complete. If soap and water are not immediately available, use an alcohol-based hand sanitizer.



After the scene has been properly decontaminated and disinfected, thoroughly re-inspect for any residual or missed contamination. Re-decontaminate as necessary.

VI. DISPOSAL OF CONTAMINATED WASTE

- ✓ All regulated medical waste will be disposed of in properly labeled, leak-proof, red biohazard bags. All biohazard bags will be double-bagged and tightly sealed. Be careful not to contaminate the outside of the bags and do not over-fill biohazard bags. Keep each bag less than 40 lbs.
- ✓ Sharps will be placed inside tightly sealed puncture and leak proof plastic containers before being placed inside biohazard bags for disposal.
- ✓ Any free-flowing contaminated liquids will be solidified with an approved micro-encapsulation agent or other suitable absorbent prior to be disposed of in biohazard bags. No free liquids will be disposed of in biohazard bags.
- ✓ Large contaminated waste objects (mattresses, rugs, etc.) that will not fit into commercially available biohazard bags will be securely wrapped in two (2) layers of tightly duct-taped 6-mil polyethylene sheeting, preferably opaque. Appropriate biohazard labels (see below) will be placed in multiple conspicuous locations.



- ✓ All regulated biohazard waste must be disposed of through either the Dowell Health Center or EHS. No regulated biohazard waste will be disposed of as non-hazardous domestic waste.
 - Properly sealed and labeled biohazard bags weighing less than or equal to (\leq) 40 lbs. will be disposed of through Dowell Health Center.
 - Normal Health Center at Ward & West business hours are Monday – Friday, 8am- 5pm. Contact the Health Center Lab at (410) 704 – 2431 prior to dropping off biohazard bags for disposal.

- After duty hours and on weekends or holidays, temporarily store properly sealed and labeled biohazard bags in a secure location pending disposal at the Health Center.
- Properly sealed and labeled biohazard bags weighing more than (>) 40 lbs. or large regulated medical waste not capable of fitting into biohazard bags will be disposed of through EHS.
 - Normal EHS business hours are Monday- Friday, 7am - 5pm. Contact EHS at (410) 704-2949 to coordinate the disposal of large contaminated waste items.
 - After duty hours and on weekends or holidays, temporarily store properly sealed and labeled biohazard bags in a secure location pending disposal through EHS.
- ✓ Waste bleach or other disinfectant solutions may be safely disposed of via the sanitary sewer system. Do not dispose via the storm water sewer system. After disposal, thoroughly rinse the container with clean water and allow to air dry.

VII. QUESTIONS

Questions concerning these procedures should be directed to EHS at (410) 704-2949 or safety@towson.edu.

Appendix 1

DuPont “*RelyOn*” Multipurpose Disinfectant Cleaner Product Information

DuPont™ RelyOn™

MULTI-PURPOSE DISINFECTANT CLEANER

RELY ON DUPONT FOR PRODUCT PERFORMANCE, INNOVATION, AND USER SAFETY



- Virucide, Bactericide, and Fungicide
- Efficacious against a wide range of pathogens (on hard non-porous surfaces) including:
 - HIV, Hepatitis A, B, and C
 - MRSA, VRE, and RSV
 - Norovirus (Norwalk-like virus)
- Bleach alternative for bloodborne pathogens
- 3 year shelf life for powder
- Easy to ship and store
- No fumes or offensive odor
- Compatible with most hard non-porous surfaces
- Can be used as part of a compliance program to meet the OSHA Bloodborne Pathogen Standard (OSHA 1910.1030)
- Cleans and disinfects in one step
- Sanitizes non-food contact surfaces in 30 seconds
- Will not harm most surfaces upon incidental contact

DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner is a peroxygen based powder or tablet, available in a variety of package sizes, which is dissolved in water to provide an effective disinfectant solution.

DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner, when prepared as a 1% working solution is efficacious against a wide range of human pathogens including Hepatitis A, B, and C, HIV, MRSA, VRE, Influenza, and Norovirus (Norwalk-like virus)—please see the product label for full details. The RelyOn™ Multi-Purpose Disinfectant and Cleaner tablets have a shelf life of 2 years and the powder 3 years, making the product convenient to both ship and store.

DuPont™ RelyOn™ disinfectants offer effective alternatives to bleach for clean up and disinfection of hard, non-porous surfaces after exposure to bloodborne pathogens or body fluids. The 1% working solution is non-irritating to eyes and skin on incidental contact as well as less corrosive to environmental surfaces. These products are more cost effective with a broader spectrum of efficacy claims than ready-to-use quats.

Available in a 5 kg bucket, 500 g shaker, 50 g sachet, and 10- or 50-count 5 g tablets with 16- or 32-oz spray bottles.



The miracles of science™

DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner has a non-hazardous shipping classification (not regulated for transportation by DOT/IMO/IATA).

DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner is ideal for use on hard, non-porous surfaces in the following scenarios:

- Emergency Response Vehicles and Equipment
- Military Vehicles and Installations
- Medical and Dental Offices
- Floors, Bed Frames, Sinks
- Bodily Fluid Spillage such as Blood and Urine
- Public Areas (schools, hotels, elevators)
- Transportation (ships, buses, trains)
- Prisons, Police Stations (e.g., Holding Cells, Processing Areas)
- Laboratories
- Disinfecting Respirator Face Pieces
- Sanitizing/Disinfecting CPR Manikins

DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner is compatible with a wide range of materials including Monel® metal, Polypropylene, Acetal resin, Nylon MNF 12115, PTFE, Polyethylene HD, Polyethylene LD, EVA, UPVC, PVC, EPDM, ABS, GRP Polycarbonate, Polyurethane, Viton®, Hytre® NBR Nitrile, CR Neoprene, “Buna N,” Silicone, Red fibre, and NOMEX® IIIA, Advance, and PBI Gold turn-out gear materials.



The miracles of science™

Microorganism	Disease ¹	% Reduction of Microorganism ²
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(Based on 1% DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner, 10-min exposure at room temperature with 5% organic soil load unless otherwise noted. DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner has efficacy against the listed microorganisms, not the diseases. The diseases are for reference only.)

VIRUSES

Hepatitis A virus (HAV)	viral hepatitis	≥99.999
Hepatitis B virus (HBV)	viral hepatitis; cirrhosis and liver cancer	≥99.99
Hepatitis C virus (HCV)	viral hepatitis; cirrhosis and liver cancer	≥99.9999
HIV-1 (AIDS virus)	human immunodeficiency syndrome	≥99.99
Influenza A-2 virus	flu (pandemic outbreaks), pneumonia	≥99.999
Avian Influenza A virus	flu	>99.99
Norovirus (Norwalk-like viruses)	gastroenteritis, vomiting, diarrhea	≥99.999
RSV (Respiratory syncytial virus)	respiratory disease (otitis media, bronchiolitis, pneumonia) esp. in infants	≥99.99

BACTERIA

Bacillus cereus	infectious diarrhea, gastroenteritis	≥99.999
Campylobacter jejuni	food borne gastroenteritis, campylobacteriosis	≥99.9999
Chlamydia psittaci	respiratory infection	≥99.99
Clostridium perfringens	food poisoning, gas gangrene and peritoneal infections	≥99.99
Listeria monocytogenes	listeriosis; food poisoning	≥99.999
Shigella sonnei	bacterial dysentery	≥99.999
Streptococcus pyogenes	strep throat, scarlet fever, impetigo, cellulitis, toxic shock syndrome	≥99.999
Campylobacter pyloridis (a.k.a. Helicobacter pylori)	digestive illnesses, including gastritis and peptic ulcers	≥99.9999
Klebsiella pneumoniae	pneumonia, septicemia, wound, burn and urinary tract infections	≥99.99999
Escherichia coli	none	≥99.9999
E. coli O157:H7	food poisoning	≥99.99
Salmonella typhimurium	gastroenteritis	≥99.9999
Salmonella choleraesuis	septicemia or focal infections	≥99.9999
Pseudomonas aeruginosa	urinary tract, respiratory, soft tissue, and gastrointestinal infections; dermatitis	≥99.9999
Staphylococcus aureus	skin infections, pneumonia, meningitis, and food poisoning	≥99.99999
MRSA (Methicillin Resistant S. aureus)	skin infections, pneumonia, meningitis, gastrointestinal and nosocomial infections	≥99.999
Staphylococcus epidermidis	subacute endocarditis	≥99.9999
VRE (Vancomycin Resistant Enterococci)	nosocomial infections, urinary tract infections, bacteremia and endocarditis	≥99.99

FUNGI

Candida albicans	candidosis, skin and superficial mucous membrane lesions, pneumonia	≥99.99
Trichophyton mentagrophytes	athletes foot	≥99.999 ³

¹ this list of diseases is only a representation of some of the more common diseases known to be caused by the listed microorganism and is not comprehensive.

² % Reduction was calculated from mean carrier density data for bacteria or titer (CCID₅₀/mL or Log₁₀ MPN/mL) of test system minus low level detection for viruses.

³ DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner at 2%

Test Methods:

All vial tests—Virucidal Efficacy Test with Hard Water (conforms to EPA DSS/TSS-7 and ASTM E1053-97)

All bacterial and fungal tests (except Chlamydia)—AOAC Use—Dilution & Synthetic Hard Water Method

Chlamydia—Inanimate Surface Assay in Hard Water (conforms to ASTM E1053-85)

For product information, go to www.relyon.dupont.com. To speak with a DuPont Customer Service Representative, call 1.800.931.3456. For medical emergencies, spills, or other critical situations, call 1.800.441.7515 within the United States. For those outside of the United States, call 1.302.774.1000.

DuPont Disinfectants are U.S. Environmental Protection Agency (EPA) registered. As with all disinfectants, always read and follow label instructions per EPA guidelines.

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DuPont vs. Competition

How Do DuPont™ Relyon™ Multi-Purpose Disinfectant Cleaner (MDC) Attributes Compare?

	Product Efficacy Claims*		
	Relyon™ MDC	Bleach	Cavicide
Viruses			
HIV	X	X	X
Hepatitis A	X	X	X
Hepatitis B	X	X	X
Hepatitis C	X	X	X
Respiratory Syncytial Virus	X	X	X
Influenza A-2	X	X	X
Avian Influenza A Virus	X	X	X
Norovirus (Norwalk-like Virus)	X	X	X
Bacteria			
Methicillin-Resistant			
Staphylococcus aureus (MRSA)	X	X	X
Vancomycin-Resistant			
Enterococcus faecalis (VRE)	X	X	X
Staphylococcus aureus	X	X	X
Staphylococcus epidermidis	X	X	X
Salmonella choleraesuis	X	X	X
Salmonella typhimurium	X	X	X
Streptococcus pyogenes	X	X	X
Escherichia coli (fecal)	X	X	X
Escherichia coli O157:H7 (food)	X	X	X
Listeria monocytogenes	X	X	X
Bacillus cereus	X	X	X
Campylobacter jejuni	X	X	X
Chlamydia psittaci**	X	X	X
Clostridium perfringens	X	X	X
Shigella sonnei	X	X	X
Fungi			
Trichophyton mentagrophytes	X	X	X
Candida albicans	X	X	X

* The above is not a complete list of all manufacturer claims. Please refer to the label for a complete list of claims and additional information. The claims listed above were based on manufacturer label/literature (Ultra Clorox Brand Regular Bleach EPA reg. #4613-50 and Cavicide EPA reg. #46131-6) as of September 2006.

** Formerly known as Chlamydia psittaci.

Attribute

- Available in Tablet form
- Available in Powder form
- Shelf life > 2 years
- Compatible w/ most hard non-porous surfaces
- No fumes or offensive odor
- Working solution non-irritant to skin and eyes
- Will not harm most surfaces upon incidental contact
- Will not damage turnout gear
- Cleans and Disinfects in 1 step
- Can be used to contain blood and body fluid spills
- More cost effective than ready-to-use quats
- Sanitizes non food contact surfaces in 30 seconds

Relyon™ MDC

- yes
- yes
- yes
- yes
- yes
- yes
- yes
- yes
- yes
- yes
- yes
- yes



Relyon™ Multi-Purpose Disinfectant Cleaner

To learn more about DuPont Antiseptic and Disinfectant products and the effective protection they offer, please contact a DuPont Customer Service representative at 1-800-931-3456 or visit our web site at www.relyon.dupont.com

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The miracles of science™

DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner

BROAD SPECTRUM DISINFECTANT

Virucidal, Bactericidal, Germicidal, Fungicidal
Compliant with OSHA bloodborne pathogen standard
Cleans and disinfects in one step
Compatible with most hard non-porous surfaces
Safe for most surfaces upon incidental contact

ACTIVE INGREDIENTS	
Potassium peroxymonosulfate	21.41%
Sodium chloride	1.50%
INERT INGREDIENTS	77.09%
TOTAL	100.00%

Equivalent to 8.75% Available Chlorine

KEEP OUT OF REACH OF CHILDREN

DANGER/PELIGRO

TABLET FORM

FIRST AID

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present after 5 minutes, then continue rinsing eye. Call a Poison Control Center or doctor for further treatment advice.

IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a Poison Control Center or doctor for further treatment advice.

IF SWALLOWED: Call Poison Control Center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: Powder is corrosive. Causes skin burns and irreversible eye damage. Harmful if swallowed or absorbed through skin. Do not get in eyes, on skin or on clothing. Wear protective clothing and rubber gloves. Wear goggles, face shield, or safety glasses. Wash hands thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. Corrosive statement does not refer to 1% in-use solution.

STORAGE AND DISPOSAL

Store in a cool dry place in tightly closed container. Keep out of reach of children. Always replace lid after use. Retain dessicant canister with product during storage. Wash empty container thoroughly and dispose of in trash. Do not mix this product with other chemicals.

FOR USE IN:

Cleaning and disinfecting hard, non-porous surfaces in institutional, commercial, residential and public service facilities including hospitals and nursing homes; field medical units, medical and dental offices; clinics and other health-care facilities; Emergency Medical Services (EMS) facilities, equipment and gear including respirators; laboratories; food processing plants, equipment and warehouses; food service and preparation areas including commercial and institutional kitchens, restaurants and cafeterias; restrooms and portable restrooms; retail stores including supermarkets, florists, barbers and beauty salons; factories; schools and daycare centers; hotels; offices; correctional facilities; funeral parlors and mortuaries; gymnasiums, stadiums and health spas; transportation terminals and vehicles including ships, automobiles, trucks and trains, and homes and residences.

EFFECTIVE AGAINST A WIDE RANGE OF VIRUSES*, BACTERIA AND FUNGI:

*Hepatitis A Virus (HAV), Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), and HIV (Human Immunodeficiency Virus (HIV-1)) (AIDS Virus), Influenza A Virus, Respiratory Syncytial Virus (RSV), Norovirus (Norwalk-like Viruses)

Bacillus cereus, Campylobacter jejuni, Chlamydia psittaci, Clostridium perfringens, Listeria monocytogenes, Shigella sonnei, Streptococcus pyogenes, Helicobacter pylori, Klebsiella pneumoniae, Escherichia coli O157:H7, Escherichia coli, Salmonella typhimurium, Salmonella choleraesuis, Pseudomonas aeruginosa, Staphylococcus aureus, Staphylococcus epidermidis, Methicillin-Resistant Staphylococcus aureus (MRSA), Vancomycin-Resistant Enterococcus faecalis, (VRE), Candida albicans, and Trichophyton mentagrophytes

DIRECTIONS FOR USE:

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

INSTITUTIONAL, FOOD PROCESSING, AND PUBLIC SERVICE FACILITIES:

With DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner one product is needed to clean and disinfect.

Do Not Use DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner on acid-sensitive surfaces such as marble or soft metals such as copper, brass, or certain grades of aluminum. Avoid splashing DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner solution on textiles or carpets. End user should assure compatibility of all critical materials that may be contacted by DuPont™ RelyOn™ Multi Purpose Disinfectant Cleaner. Cleaning Procedure: Remove gross dirt and prepare a 1.0% solution according to the table below. Apply to surface using a sponge, brush, or spray device, scrubbing as necessary until the surface is visibly clean. Rinse.

CLEANING AND DISINFECTING HARD NON-POROUS FOOD CONTACT SURFACES: Remove gross dirt and prepare 1.0% solution according to the table below. Apply to surface using a sponge, brush, or spray device until the surface is visibly clean. Let stand for 10 minutes and rinse with potable water.

CLEANING AND DISINFECTING HARD NON-POROUS NON-FOOD CONTACT SURFACES: Remove gross dirt and use 1.0% DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner solution prepared according to the table below. Apply to surface using a mop, sponge, brushes or spray device until the surface is visibly clean. Let stand 10 minutes and air dry. In cases of fungal contamination of non-food contact surfaces, follow these instructions substituting a 2.0% DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner solution.

This product is not to be used on any surface or instrument that (1) is introduced directly into the human body, either into or in contact with the bloodstream or normally sterile areas of the body, or (2) contacts intact mucous membranes but which does not ordinarily penetrate the blood barrier or otherwise enter normally sterile areas of the body.

CLEANING AND DISINFECTING MANKINS USED IN CPR TRAINING: Sanitizing mannikins between students:

Prepare a 3% solution of DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner (according to dilution chart) by dissolving 3 tablets (5gm each) of DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner in one pint (16 oz) water or by dissolving 1 tablet (5 gm) of DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner in premarked 5.3 oz spray bottle that has been filled to line with water. Thoroughly spray the mannikin surface (mouth and nose area) or wipe with a cloth saturated with 3% solution until fully wetted. Allow surface to remain visibly wet for a minimum of 30 seconds, and wipe with a disposable cloth until dry. Rinse surface with potable water.

CRISIS SCENE DISINFECTION OF HARD NON-POROUS SURFACES: For bacterial and viral* control: Streptococcus pyogenes, Helicobacter pylori, Klebsiella pneumoniae, Escherichia coli, Salmonella typhimurium, Salmonella choleraesuis, Pseudomonas aeruginosa, Staphylococcus aureus, Methicillin-Resistant Staphylococcus aureus (MRSA), Vancomycin-Resistant Enterococcus faecalis, (VRE), and Staphylococcus epidermidis.

*Hepatitis A Virus (HAV), Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), and HIV (Human Immunodeficiency Virus (HIV-1)) (AIDS Virus), Influenza A, Respiratory Syncytial Virus (RSV), Norovirus (Norwalk-like viruses)

For a 1% solution from tablet: Remove gross dirt. Fill container with required amount of water and add one 5gm (0.18 oz) DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner tablet per pint of water. Cap container and gently shake until tablet is dissolve. Apply solution to surface using a sponge, brush, or spray device until the surface is visibly wet. Let stand for 10 minutes and air dry.

SPECIAL INSTRUCTIONS FOR CLEANING AND DECONTAMINATION AGAINST *HIV-1, HEPATITIS B (HBV), AND HEPATITIS C (HCV) ON SURFACES/OBJECTS SOILED WITH BLOOD/BODY FLUIDS.

*Kills HIV-1, HAV, HBV, and HCV on pre-cleaned environmental surfaces/objects previously soiled with blood/body fluids in health care settings (Hospitals, Nursing Homes, etc.) or other settings in which there is an expected likelihood of soiling of inanimate surfaces/objects with blood or body fluids, and in which the surfaces/objects likely to be soiled with blood or body fluids can be associated with the potential for transmission of Human Immunodeficiency Virus Type 1 (HIV-1) (associated with AIDS), Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV).

PERSONAL PROTECTION: When handling items soiled with blood or body fluids use disposable latex gloves, gowns, masks, or eye coverings.

CLEANING PROCEDURES: Blood and other body fluids must be thoroughly cleaned from surfaces and objects using a cleaner (such as DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner) before application of this product as a disinfectant (see previous label instructions for use of DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner as cleaner)

CONTACT TIME: Allow surface to remain wet for 10 minutes.

DISPOSAL OF INFECTIOUS MATERIALS: Blood and other body fluids should be autoclaved and disposed of according to local regulations for infectious waste disposal.

Net Contents: refer to container label

Choose a delivery option from the list below		Add the following amount of DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner to the designated volume of water					
		1%					
		16 oz. (Pint)	32 oz. (Quart)	128 oz. (Gallon)	160 oz. (5 Quarts)	640 oz. (5 Gallons)	
DuPont™ RelyOn™ Multi-Purpose Disinfectant Cleaner	Standard						
Metric							
5 g Tablet	0.18 oz Tablet	1 Tablet	2 Tablets	8 Tablets	10 tablets	40 Tablets	
40 g Sachet*	1.44 oz Sachet			1 Sachet		5 Sachets	
50 g Sachet	1.8 oz Sachet				1 Sachet	4 Sachets	
500 g Shaker Bottle	17.6 oz Shaker Bottle	1 tsp	2 tsp	8 tsp	10 tsp	40 tsp	
5 kg Bucket	176 oz Bucket	1 tsp	2 tsp	8 tsp	10 tsp	40 tsp	
2%							
5 g Tablet	0.18 oz Tablet	2 Tablets	4 Tablets	16 Tablets	20 tablets	80 Tablets	
40 g Sachet*	1.44 oz Sachet			2 Sachets		10 Sachets	
50 g Sachet	1.8 oz Sachet				2 Sachets	8 Sachets	
500 g Shaker Bottle	17.6 oz Shaker Bottle	2 tsp	4 tsp	16 tsp (1/3 cup)	20 tsp	1-2/3 cups	
5 kg Bucket	176 oz Bucket	2 tsp	4 tsp	16 tsp (1/3 cup)	20 tsp	1-2/3 cups	
3%							
		170 ml (5.75 oz)	16 oz. (Pint)	32 oz. (Quart)	128 oz. (Gallon)	160 oz. (5 Quarts)	640 oz. (5 Gallon)
5 g Tablet	0.18 oz Tablet	1 Tablet	3 Tablets	6 Tablets	24 Tablets	30 Tablets	120 Tablets
40 g Sachet*	40 g Sachet*				3 Sachets		15 Sachets
50 g Sachet	50 g Sachet					3 Sachets	12 Sachets
500 g Shaker Bottle	500 g Shaker Bottle	1 Tbsp	2 Tbsp	0.5 cups	10 Tbsp	2-1/2 cups	
5 kg Bucket	5 kg Bucket	1 Tbsp	2 Tbsp	0.5 cups	10 Tbsp	2-1/2 cups	

Manufactured by:
E.I. du Pont de Nemours and Company
1007 Market Street
Wilmington, DE 19888

Questions? Call 1-800-441-7515

EPA Reg. No. 71654-7
EPA Est. No. 62432-EN-001
CN-21570 - tab - instart 090804
P936REL2/RelyOn/TFU/DuPont/USA/11.05/K

tsp = teaspoon
Tbsp = tablespoonfor
Disinfecting use a rate of 7.5 gallons/1,000 sq. ft.
For Cleaning and Disinfecting use a rate of 15 gallons/1,000 sq. ft.

For Disinfecting use a rate of 7.5 gallons/1,000 sq. ft.
For Cleaning and Disinfecting use a rate of 15 gallons/1,000 sq. ft.

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Version 12.1

Revision Date 06/01/2010

Ref. 130000093735

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : RelyOn® Multipurpose Disinfectant Cleaner
MSDS Number : 130000093735
Product Use : Disinfectant, Cleaning agent
Manufacturer : DuPont
1007 Market Street
Wilmington, DE 19898
Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency : CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Potential Health Effects
Skin : Irritating to skin.
Eyes : Risk of serious damage to eyes.
Inhalation
Potassium peroxymonosulfate : Causes respiratory tract irritation.
Sulfamic acid : Inhaled corrosive substances can lead to a toxic oedema of the lungs. Harmful if inhaled and may cause delayed lung injury., Liquid aerosols may cause:, Oedema.
Ingestion
Potassium peroxymonosulfate : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Sulfamic acid : Burning sensation Abdominal pain

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Sodium chloride : Gastrointestinal discomfort Vomiting, Diarrhoea.

Target Organs
Potassium
peroxymonosulfate : Eyes

Primary Routes of Entry : Eye contact, Skin contact

Carcinogenicity
None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Potassium peroxymonosulfate	10058-23-8	21.41 %
Sulfamic acid	5329-14-6	4 - 6 %
Sodium chloride	7647-14-5	1.5 %

SECTION 4. FIRST AID MEASURES

Skin contact : In case of contact, immediately flush skin with plenty of water. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Consult a physician if necessary.

Eye contact : Rinse immediately with plenty of water and seek medical advice.

Inhalation : Move to fresh air. Consult a physician if necessary.

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Ingestion : Call a poison control center or doctor for treatment advice. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give anything by mouth to an unconscious person.

SECTION 5. FIRE-FIGHTING MEASURES

Flammable Properties
Flash point : does not flash

Suitable extinguishing media : Water spray, Dry powder, Alcohol-resistant foam

Unsuitable extinguishing media : Carbon dioxide (CO2)

Firefighting Instructions : Wear self-contained breathing apparatus (SCBA). Wear suitable protective equipment. Evacuate personnel to safe areas. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel) : Wear suitable protective equipment. Wear respiratory protection.

Spill Cleanup : Sweep up and shovel into suitable containers for disposal. Avoid dust formation. After cleaning, flush away traces with water.

Accidental Release Measures : Prevent material from entering sewers, waterways, or low areas. Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel) : Avoid contact with skin, eyes and clothing. Do not get on clothing. Wash off with plenty of water. Wash clothing after use. Do not breathe dust. Avoid dust formation in confined areas. For personal protection see section 8.

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When using do not eat, drink or smoke.

Storage : Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container.
Keep away from: Combustible material
Stable under recommended storage conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : Provide local exhaust ventilation when handling material in bulk. Ensure adequate ventilation.

Personal protective equipment

Respiratory protection : Provide adequate ventilation. Wear NIOSH approved respiratory protection as appropriate.

Hand protection : Material: Impervious gloves

Eye protection : Wear coverall chemical splash goggles and face shield when the possibility exists for eye and face contact due to splashing or spraying of material.

Skin and body protection : Where there is potential for skin contact, have available and wear as appropriate, impervious gloves, apron, pants, jacket, hood and boots.

Exposure Guidelines

Exposure Limit Values

Pentapotassium bis(peroxymonosulphate) bis(sulphate)
AEL * (DUPONT) 1 mg/m3 8 & 12 hr. TWA Total dust.

Sulfamic acid
AEL * (DUPONT) 0.5 mg/m3 8 & 12 hr. TWA

AEL * (DUPONT) 1.5 mg/m3 15 minute TWA

Dipotassium peroxodisulphate
TLV (ACGIH) 0.1 mg/m3 TWA as persulfate

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Potassium sulfate
AEL * (DUPONT) 10 mg/m³ 8 hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form : powder
Color : yellow
Odor : pleasant, sweet
pH : 2.4 - 2.7
% Volatile : 1.07 %
Water solubility : 65 g/l at 20 °C (68 °F)

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : Protect from moisture.
Incompatibility : Strong bases combustibles, Acids, oxidizers, Brass, Copper, Halogenated compounds, Cyanides, Heavy metal salts
Hazardous decomposition products : Sulphur dioxide , Chlorine

SECTION 11. TOXICOLOGICAL INFORMATION

RelyOn® Multipurpose Disinfectant Cleaner
Inhalation 4 h LC50 : 3.7 mg/l , rat
Dermal LD50 : 2,200 mg/kg , rabbit
Oral LD50 : 4,123 mg/kg , rat
Skin irritation : Moderate skin irritation
Eye irritation : Risk of serious damage to eyes.
Sensitisation : Animal test did not cause sensitization by skin contact., guinea pig
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Potassium peroxymonosulfate Repeated dose toxicity	: Animal test did not cause sensitization by skin contact., guinea pig Inhalation rat Target Organs: Eyes Pathologic changes, Eyes, corneal damage, Information given is based on data obtained from similar substances.
Mutagenicity	: Oral - gavage rat Reduced body weight gain, Gastrointestinal effects, Information given is based on data obtained from similar substances. Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others. Did not cause genetic damage in animals. Did not cause genetic damage in cultured bacterial cells. Information given is based on data obtained from similar substances.
Teratogenicity	: Animal testing showed effects on embryo-foetal development at levels equal to or above those causing maternal toxicity. Information given is based on data obtained from similar substances.
Sodium chloride Mutagenicity	: Did not cause genetic damage in cultured bacterial cells.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity Potassium peroxymonosulfate 96 h LC50	: Oncorhynchus mykiss (rainbow trout) 53 mg/l Information given is based on data obtained from similar substances.
72 h EC50	: Pseudokirchneriella subcapitata (green algae) 0.97 mg/l Information given is based on data obtained from similar substances.
48 h EC50	: Daphnia magna (Water flea) 3.5 mg/l Information given is based on data obtained from similar substances.
Sulfamic acid 96 h LC50	: Pimephales promelas (fathead minnow) 14.2 mg/l

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Sodium chloride
LC50 : Pimephales promelas (fathead minnow) 7,650 mg/l

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal : In accordance with local and national regulations. Do not flush into surface water or sanitary sewer system. Do not contaminate water, food or feed by disposal.

SECTION 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

TSCA Status : On the inventory, or in compliance with the inventory
EPA Reg. No. : 71654-7

SECTION 16. OTHER INFORMATION

HMIS

Health : 3
Flammability : 0
Reactivity/Physical hazard : 0
PPE : Personal Protection rating to be supplied by user depending on use conditions.

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Do not use for medical-clinical purposes.

Contact person : MSDS Coordinator, DuPont Chemicals and Fluoroproducts, Wilmington, DE
19898, (800) 441-7515

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.

Distribution:

- Athletics
- Auxiliary Services
 - Dining Services
 - Events & Conference Services
- Dowell Health Center
- EHS
- Facilities Management
 - ABM
- Housing & Resident Life
- Parking & Transportation Services
- TUPD