

ISMP Canada Safety Bulletin

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ALERT: Risk of Inadvertent Reconstitution of Medications with Cleaning Products

- *Do not use distilled water containers to store anything other than distilled water.*
- *Do not store cleaning products in repurposed empty containers. Purchase, fill and apply labels to empty, unlabelled containers and/or bottles for repackaging such products.*

To combat the spread of COVID-19 through enhanced surface cleaning and disinfection, community pharmacies have been purchasing and storing larger-than-usual quantities of cleaning products, including sanitizers and disinfectants (referred to collectively as “cleaning products” in this bulletin). As a result, some of these products may be purchased in bulk containers and then decanted into other, smaller containers, for ease of handling. As well, some high-strength products must be diluted before use to achieve the desired concentration, which again may involve transfer to separate containers. To accommodate the resulting product volumes, some pharmacies are preparing and/or storing the smaller volumes or diluted products in empty bottles that previously contained distilled water. This bulletin is shared to alert all pharmacy staff to the potentially harmful outcomes of this practice.

INCIDENT EXAMPLES

A child was given the first dose of an antibiotic suspension that had been reconstituted and dispensed by a community pharmacy. After ingesting the first dose, the child gagged and vomited. Shortly afterward, the pharmacist called the child’s parents and asked them to smell the antibiotic liquid. The parents reported that it smelled like vinegar. The pharmacy then acknowledged that vinegar, instead of distilled water, had likely been used, in error, to reconstitute the medication.

A consumer reported the incident above, but ISMP Canada has also recently received several near-miss reports from pharmacy staff, who have described almost reconstituting a medication with a cleaning product, including diluted bleach, instead of the intended distilled water diluent. Fortunately, in each of these cases, the pharmacy staff recognized, before any error actually occurred, that a cleaning solution was being stored in an empty, improperly labelled distilled water container.

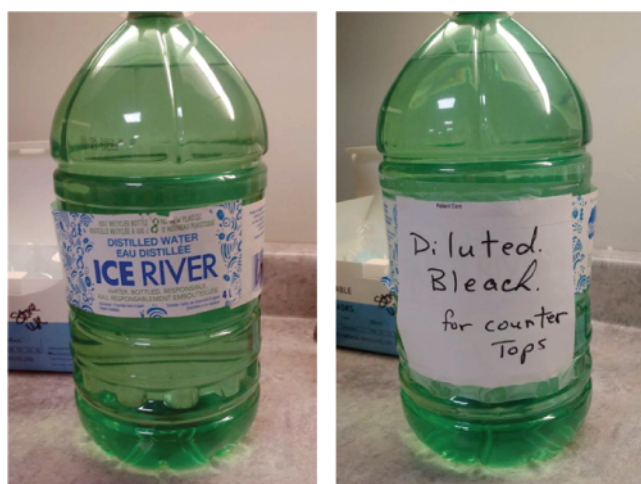
BACKGROUND

Distilled water is a product commonly used in pharmacy dispensaries, most often to reconstitute medications, such as antibiotics for children; distilled water is also needed for compounding and dilution purposes. The ability of end users

(e.g., dispensary staff) to safely work with any product depends on many factors, including appropriate packaging and labelling, the context of use, and previous experience with the product.^{1,2} Many personnel associate a certain size, colour, and shape of container with distilled water. If an empty bottle that previously held distilled water is repurposed to store a different clear, colourless liquid, such as a cleaning product, and if no label, or if a poorly positioned or badly written label is applied, the contents can easily be mistaken for distilled water (see Figure 1). Placement of such a repurposed container in the area of the dispensary where distilled water is customarily stored can easily result in accidental use of the bottle contents to reconstitute or compound prescription medications.

Figure 1.

The two photos show the front and back labels of a repurposed distilled water container being used to store diluted bleach.



RECOMMENDATIONS

Pharmacies and health care facilities should follow the recommendations below:

- Do not use distilled water containers to store anything other than distilled water.
- Do not store cleaning products (including sanitizers, disinfectants, or other products not intended for ingestion) in repurposed empty

containers. Purchase and use empty, unlabelled containers for repackaging such products.

- Whenever cleaning products are repackaged, immediately label all sides of the new container and include a warning message (e.g., “for CLEANING”) or affix auxiliary warning labels (e.g., “For External Use Only, Not to Be Taken by Mouth”).
- Store all cleaning products in a specific location outside the dispensary area and return them to this storage location after use.
- Ensure that updated WHMIS training is provided for all pharmacy employees;³ there are labelling requirements for cleaning solutions.
- Dedicate space within the dispensary to store distilled water intended for prescription processing.

This alert emphasizes the importance of a continuous quality improvement program and the value of shared learning. When practice changes occur, such as a change to cleaning protocols in response to a pandemic, pharmacy teams must work together to identify risks and potential unintended consequences.

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Another Poisoning Risk: Hand Sanitizers That Look Like Food

Earlier this year, an alert and an advisory were issued about the risk for inadvertent ingestion of hand sanitizers that look like beverages.^{1,2} This included hand sanitizers packaged in water bottles and other drink containers because consumers, including children, associated the products' appearance with packaged beverages.

Health Canada published an advisory for consumers warning about the risk of poisoning with hand sanitizers in packages commonly used for food, such as food pouches.³ Child Safety Link from the IWK Health Centre shared an alert about hand sanitizers packaged in squeeze pouches that are marketed to children (Figure 1). There is a risk that children will mistake these items for edible food products, such as applesauce or pudding, because of the similarities in packaging. The alert and advisory are especially timely given the return-to-school environment.

The company distributing the products highlighted in the alert has since stopped selling them. To reduce the risk for unintentional ingestion of alcohol-based sanitizers, Health Canada recently issued requirements for the packaging and labelling of these products.⁴

Figure 1.

Alert shared on Twitter by Child Safety Link from IWK Health Centre describing hand sanitizer in food squeeze pouches marketed for children.



References

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