

Beware of the risks to children from liquid detergent pods for dishwashers



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The dishwasher detergent market has seen the arrival of a new format in recent years, alongside tablets and gels: «all-in-one» capsules, modelled on liquid laundry detergent pods. These brightly coloured single-dose pods contain only liquid or have several solid (powder) and liquid compartments. French poison control centres and ANSES analysed the cases of exposure to these products reported between 1 January 2018 and 30 June 2023

Like the liquid detergent pods used in washing machines, these dishwasher capsules are promoted for their ease of use. The contents are packaged in a single-use dose surrounded by a water-soluble film that seals the pod completely. A single pod is recommended for each wash; it is simply placed directly in the dishwasher. The water-soluble film dissolves spontaneously on contact with water in the machine, avoiding direct contact with the contents during handling.

NO SPECIFIC REGULATIONS

Since 2015, liquid laundry detergent pods have been subject to a specific European regulation¹, because their ingredients are more toxic than those in conventional detergents and following several alerts about accidents involving young children [1]. This regulation requires the product to be packaged in a fully opaque outer box, the lid closure to be reinforced with a safety flap, a «Keep out of reach of children» precautionary statement to be visibly displayed, a non-toxic aversive agent to be added to the water-soluble film, and greater resistance to pressure in the event of handling.

On the other hand, dishwasher pods are not subject to similar regulations.

The European Commission therefore asked Member States to send the CARACAL2 group (Competent Authorities for REACH³ and CLP⁴) any data they had on cases of poisoning by dishwasher pods, in order to assess whether it was necessary to amend the CLP Regulation specifically for this use.

To respond to this request, ANSES therefore analysed cases of exposure to dishwasher pods recorded by French poison control centres over the period from 1 January 2018 to 30 June 2023.

¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R1297&from=EN>

² Group of experts advising the European Commission and ECHA on implementation of the REACH and CLP regulations.

³ Regulation (EC) No 1907/2006 (known as REACH, for Registration, Evaluation, Authorisation and Restriction of Chemicals) is a European regulation that came into force in 2007 to improve safety in the manufacture and use of chemicals in European industry.

⁴ Regulation (EC) No 1272/2008 (known as CLP, for Classification, Labelling and Packaging of Substances and Mixtures) aims to communicate at European level on the dangers of all hazardous chemicals and mixtures, via labelling and safety data sheets, in order to inform consumers and workers and protect human health and the environment.

EXPOSURE ON THE RISE, PARTICULARLY AMONG CHILDREN

The analysis included cases of exposure to a liquid dishwasher detergent in a water-soluble dose or a multi-compartment powder/liquid dose contained in a water-soluble film, whether or not the person presented symptoms and regardless of the route of exposure, the circumstances and the severity of the poisoning.

In order to be able to attribute the symptoms to exposure to the liquid contained in the pod, or rule this out, the analysis excluded exposure to multiple products

(multiple agents) – except for those involving several liquid pods, exposure only to the «powder» compartment of multi-compartment pods, cases where a link between exposure to the product and clinical signs had been ruled out (where causality was zero), as well as cases not dealt with by the emergency telephone hotline⁵.

In total, the poison control centres provided advice and guidance on medical treatment for 787 cases of exposure between 1 January 2018 and 30 June 2023.

There has been an increase in cases since 2018. Children under the age of six accounted for 79.6% of cases (n=627).

Figure 1 – Temporal distribution of exposure cases to dishwasher pods reported to poison control centres

(Source SICAP: January 2018 to June 2023)

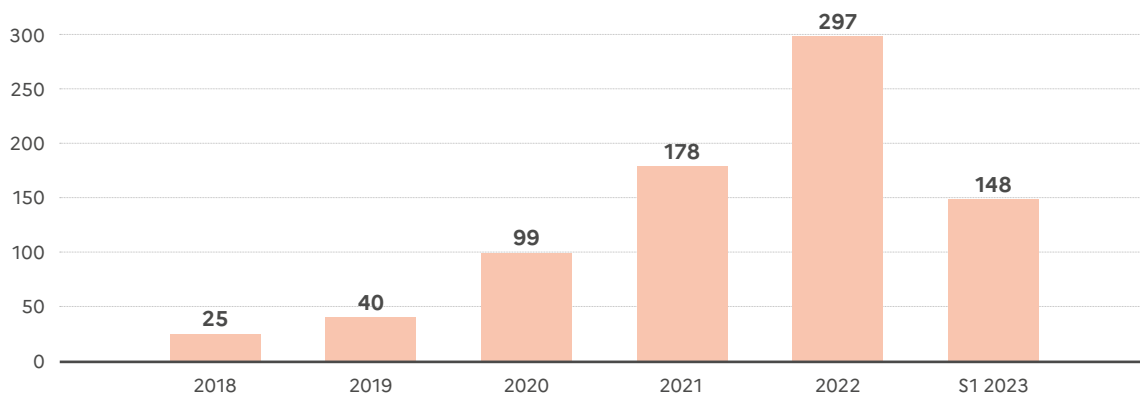


Table 2 – Breakdown by age group of cases of exposure to dishwasher pods reported to poison control centres

(Source SICAP: 2018-2023)

AGE GROUP	NUMBER OF CASES (N)	PERCENTAGE (%)
1 month – 3 months	1	0.1
3 months – 1 year	68	8.6
1 year – 3 years	497	63.2
3 years – 6 years	61	7.8
6 years – 10 years	7	0.9
10 years – 15 years	14	1.8
15 years – 18 years	5	0.6
18 years – 25 years	11	1.4
25 years – 65 years	90	11.4
65 years – 75 years	10	1.3
> 75 years	14	1.8
Unknown (age)	9	1.1
TOTAL	787	100

⁵ A case not dealt with by the emergency telephone hotline is an exposure case for which the PCC received notification of an exposure dossier or specifically searched for exposure dossiers as part of a study, but was not spontaneously called to give medical advice or toxicological expertise.

Individuals were exposed mainly by the oral route alone or in combination with another route of exposure (74.7%, n=588), but also by the mouth (i.e. without ingestion) alone or in combination (15.4%, n=121), or by the ocular route alone or in combination (12.7%, n=100).

SERIOUS CASES ASSOCIATED WITH EYE SPLASHES

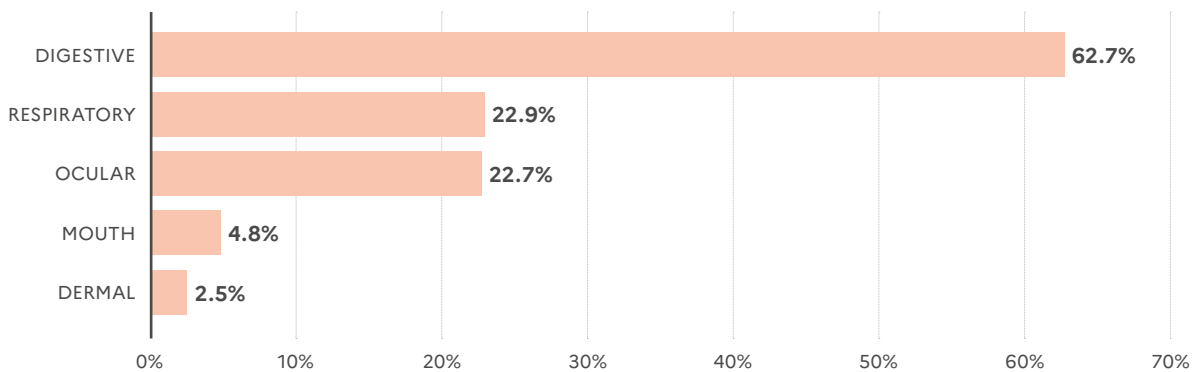
Of the 787 people exposed between 1 January 2018 and 30 June 2023, half of them (n=397) suffered from at least one symptom: poisoning was severe in three patients, moderate in 15 and mild for the vast majority of symp-

tomatic patients (95.4%, n=379).

The symptoms most commonly reported with low-severity poisonings (95.4%, n=379) were digestive: 62.7% of patients poisoned by dishwasher pods (n=249) had at least one digestive sign, such as vomiting (48.6%, n=194) or hypersalivation (4.3%, n=17), 22.9% (n=90) had respiratory symptoms such as coughing (20.4%, n=81), and 22.7% (n=90) had ocular symptoms such as eye pain (12.8%, n=51), eye redness (6.3%, n=25) and/or blurred vision (5.8%, n=23). Among the moderate-severity cases, there were nine ingestions and six eye splashes. The ingestions involved eight children aged between 8 months and 2.5 years, and a 77-year-old woman. (6,3 %, n=25) et/ou une vision trouble (5,8 %, n=23).

Figure 2 – Description of the classes of symptoms reported in low-severity poisonings by dishwasher pods

(Source SICAP: 2018-2023)



Among the moderate-severity cases, there were nine ingestions and six eye splashes. The ingestions involved eight children aged between 8 months and 2.5 years, and a 77-year-old woman. Symptoms associated with these ingestions were prolonged coughing, dyspnoea, hypersalivation associated with dysphagia and lip oedema or persistent vomiting. Eight of these cases were treated in a hospital emergency department. An *upper gastrointestinal fibroscopy* was carried out on the 77-year-old woman, which found no lesions. The six people who splashed the product in their eyes all suffered from keratitis⁶, which was treated in a hospital emergency department. All recovered without any sequelae.

Regarding the most serious poisonings, two cases of eye splashes resulted respectively in chronic blepharitis⁷ (still present six months after the accident) in a 44-year-old patient, and blepharitis and extensive corneal ulceration (which eventually resolved) in another patient

aged 86. There was also one case of ingestion resulting in respiratory distress in an 8-month-old infant.

EUROPEAN DATA IN LINE WITH FRENCH DATA

Several European Member States provided data from their poison control centres, which also showed exposure predominantly among young children. In light of these data, the European Commission will decide whether it is necessary to amend the regulations on these products, which have become widespread in kitchens and pose a risk of ingestion by young children.

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⁶ Ulcération de la surface de la cornée.
⁷ Inflammation chronique du bord des paupières.