



The sea is full of plastic and we know it, very well.

Every year, Legambiente coordinates all the associations, schools and local institutions all around the Mediterranean sea that decide to commit themselves in the cleaning up of beaches and natural sites from litter. Not only physical removal of waste but also raising awareness and educating the community.

The main source of marine debris are human activities and, above all, the bad management of urban waste and wrong citizen behavior. Microplastics are the greatest issue because they're quite impossible to remove from sea and they could be ingested by fishes, seabirds and other marine creatures with several consequences.

The main part of marine microplastics is made up of nurdles and, in this case, the source is industry.

Legambiente asks your contribution to understand the level of diffusion of nurdles to denounce this problem. Below you can find a little handbook that explains what nurdles are, where they come from and what damage they can do.

WHAT ARE NURDLES?

Nurdles (or plastic pellets or mermaid tears) are small plastic pre-production pellets that serve as base for the manufacturing of plastic products and about the size of a lentil. Countless billions of this little objects are used each year to make nearly all our plastic



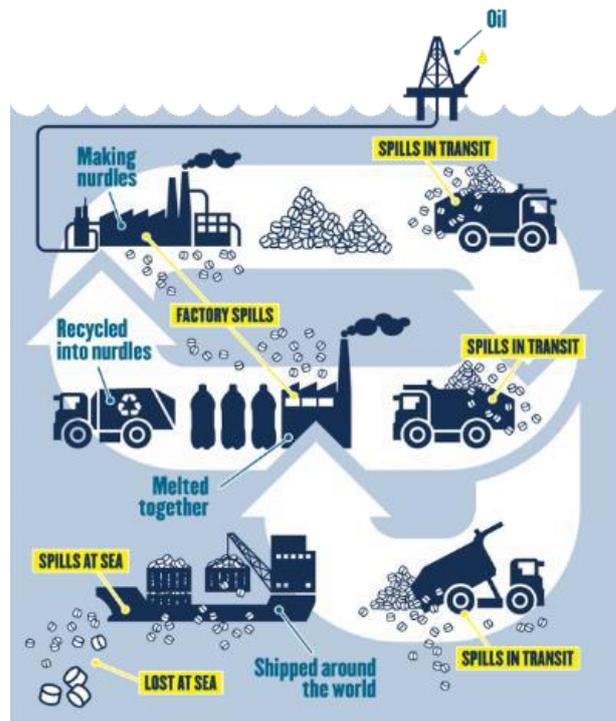
products but many end up washing up on our shores.

HOW DO THEY END UP AT THE SEA?

Spills take place when nurdles are handled or transported. This can happen at any step from the manufacturer through the distribution network to the plastic goods producer.

Most nurdles float and so can be carried by rainwater into storm drains and watercourses and are carried straight out to sea. In the sea they disperse quickly and widely and as a result can be found throughout the world.

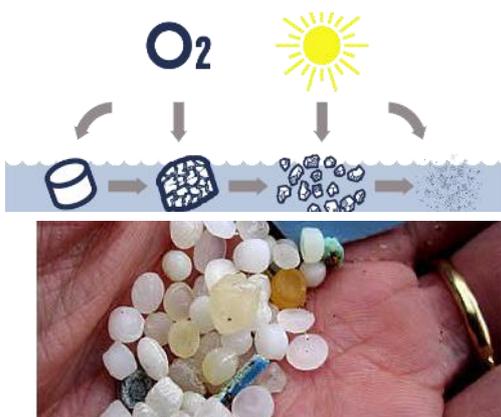
Nurdles can escape from small breaks or holes in the different containers used for their transit. Mesh used to catch debris in runoff water is not fine enough to trap nurdles before they get flushed out to sea.



WHY ARE NURDLES HARMFUL?

Unlike large pieces of plastic marine litter, nurdles are so small that they often go unnoticed. However, scientists are becoming increasingly concerned about their effect on our delicate marine ecosystem:

- In the sea, nurdles and other plastics attract toxins called Persistent Bioaccumulating Toxins (PBTs) to their surface. Most PBTs are industrial chemicals which can accumulate in animal and human tissue causing long-term damage.
- Although nurdles are quite small, over time they can fragment almost indefinitely. At the size of a grain of sand, plastics are mistaken for planktonic food by animals lower down the food-chain.
- Like other plastics, nurdles are often mistaken for food by animals like sea birds, fish, and crustaceans. 180 species of marine animals, including mammals, birds, fish, and invertebrates, have been found to have ingested plastic. Plastic can get trapped in the animal's stomach, causing ulceration, making them feel full and stopping them from eating real food. It is also very likely that highly toxic chemicals on the surface of the plastic fragments transfer into the food chain.



KNOW YOUR NURDLES

Nurdles are hard to spot! They are very small and their colour often blends in with the sand, so on your hunt slow down and get close to the ground.

Colour: most are clear or white but they become yellow over time. You do get coloured pellets too.

Size and Shape: between 3-5mm in diameter, often shaped like a lentil.

Sometimes you'll have to look very well on the beach.



WHERE TO LOOK



Amongst other plastic:

The best place to start your hunt is amongst accumulations of small pieces of plastic above the tide line.

Paths:

Look on sheltered tracks and paths at the edge of the beach.

Vegetation:

Blown on shore from the sea they get caught in the base of the grasses at the top of the beach.

Strand line:

The sea washes them up to the high tide mark where they get trapped in the strand line debris.

Sandy Beach:

It is easier to hunt on sandy rather than stony or pebbly beaches

Headlands:

Beach litter often accumulates near the headlands of bays.

Un-cleaned beaches:

In the summer some popular beaches are mechanically cleaned. Avoid these areas.

TELL US IF YOU SEE THEM...

If you notice nurdles on your beach please write to Legambiente ONLUS with a description about WHERE you found them (beach's name, municipality/district, region, country or nation) and attaching photos!

Send at: scientifico@legambiente.it

Thank to ©Fidra for images and text. More information on www.nurdlehunt.org.uk