

# Texas Monofilament Recovery and Recycling & Nurdles

By

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## "PLASTICS...THERE IS A GREAT FUTURE IN PLASTICS"

The Graduate-1967 Film

#### **Plastic Resin Identification Codes**

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PETE	HDPE	23 PVC			PS	OTHER
Polyethylene Terephthalate	High-Density Polyethylene	Polyvinyl Chloride	Low-Density Polyethylene	Polypropylene	Polystyrene	Other
Common products: soda & water bottles; cups, jars, trays, clamshells	Common products: milk jugs, detergent & shampoo bottles, flower pots, grocery bags	Common products: cleaning supply jugs, pool liners, twine, sheeting, automotive product bottles, sheeting	Common products: bread bags, paper towels & tissue overwrap, squeeze bottles, trash bags, six-pack rings	Common products: yogurt tubs, cups, juice bottles, straws, hangers, sand & shipping bags	Common products: to-go containers & flatware, hot cups, razors, CD cases, shipping cushion, cartons, trays	Common types & products: polycarbonate, nylon, ABS, acrylic, PLA; bottles, safety glasses, CDs, headlight lenses
Recycled products: clothing, carpet, clamshells, soda & water bottles	Recycled products: detergent bottles, flower pots, crates, pipe, decking	Recycled products: pipe, wall siding, binders, carpet backing, flooring	Recycled products: trash bags, plastic lumber, furniture, shipping envelopes, compost bins	Recycled products: paint cans, speed bumps, auto parts, food containers, hangers, plant pots, razor handles	Recycled products: picture frames, crown molding, rulers, flower pots, hangers, toys, tape dispensers	Recycled products: electronic housings, auto parts,
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#### Primary microplastics: "Nurdles"







O dreamstime.com

ID 162800961 © Maxsafaniuk





https://www.pxfuel.com/en/free-photo-jpxdl









#### Micro and Nano Plastics

Scientists found that **THERE ARE SEVEN TIMES MORE** MICROPLASTICS THAN LARVAL **FISH IN SEA SLICKS**—calm bands of water on the ocean's surface where sea currents meet. Many of the larva in these slicks eat the tiny, prey-sized plastics and then pass those plastics on to fish and sea birds higher up the food chain (Gove et al., 2019 Proceedings of the National Academy of Sciences).

Scientists discovered that EXPOSURE TO 2,000 MICROPLASTIC PARTICLES PER ML OF WATER LEAD ZOOPLANKTON TO EXTINCTION within just four generations (Schür et al., 2020 Environmental Pollution).

A study in London, UK, discovered microplastics suspended in the air throughout the city. The study suggests that cities could be a source of microplastic pollution as the AIRBORNE PLASTIC PARTICLES ENTER SOIL AND BODIES OF WATER, INCLUDING THE OCEAN, THROUGH RAIN AND SNOW (Wright et al., 2020 Environment International).

RESEARCHERS DISCOVERED MICROPLASTICS IN ICE CORES TAKEN FROM ANTARCTICA, adding to the list of remote places contaminated by these pollutants (Kelly et al., 2020 Marine Pollution Bulletin). The list grew even longer when MICROPLASTICS WERE FOUND FLOATING IN THE DEEP SEA and in the stomachs of the organisms living there (Choy et al., 2019 Nature).

#### Secondary Microplastics



Photo by Maia McGuire

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Photo by Maia McGuire



Photo by Maia McGuire





Photos by Maia McGuire









#### Nurdle Patrol

### NURDLE PATROL

Pick up plastic pellets (nurdles) at your beach for 10 minutes.

Send location, date, pics, and number found to jace@utexas.edu

Done!

#### NURDLE PATROL?

Nurdle Patrol is a citizen science project lead by the Mission-Aransas National Estuarine Research Reserve at the University of Texas Marine Science Institute in Port Aransas, Texas. We are looking to gather information about where nurdles are located across Texas and the rest of the Gulf of Mexico, remove the nurdles from the environment, and create awareness about the nurdle issue. Nurdles are small plastic pellets and are the basis of everything plastic. They are small and look like food to animals, and they absorb other toxins in the environment so can be deadly to some animals depending on the toxin concentrations.

> Look here for nurdles for 10 minutes Send # of nurdles found to jace@utexas.edu





You Tube

Nurdle Patrol







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Legend 29th St • Feature 1

Jace@utexas.edu  $\bigwedge_{N}$ 

Bolivar Peninsula





©2018 Google Data SIO, NOAA, U.S. Navy, NGA, GEBCO

7 mi



https://www.youtube.com/watch?v=KpVpJsDjWj8

#### Poll Question # 1

- 1. Used Fishing line cannot be recycled?
  - a) False
  - b) True

#### Texas Monofilament Recovery and Recycling

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### Used Fishing Line











#### Poll Question #2

- 1. It is estimated used fishing line remains in the aquatic environment for \_\_\_\_\_years?
  - a) 1 year
  - b) 6 years
  - c) 60 years
  - d) 600 years

#### Poll Question #3

- Used fishing line discarded into the environment can entangle which of the following?
  - a) Sea Turtles
  - b) Marine Mammals
  - c) Brown Pelicans
  - d) None of the Above
  - e) All of the Above

#### Why should I care?














































## Reel Anglers Recycle!






































## We recycle our fishing line in monofilament recycling bins to save sea turtles

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Reciclamos nuestra línea de pesca en contenedores diseñadas para reciclar monofilamento para salvar a las tortugas marinas.

Chúng tôi tái chế những dây câu cá vào thùng tái chế để cứu rùa biển.







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## RECYCLED RINGS FROM THE WATER TO YOUR HAND

SEND US YOUR LINE

## People are the solution to plastic pollution.

- Get Involved!
- Actions on the land affect the oceans.
- Dispose of waste properly.
- Reduce the amount of waste.
- Reuse items.
- Recycle.

## Contact Information

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