



# Recycling LDPE\* agricultural and industrial films for top notch raw materials

\* Low-density polyethylene



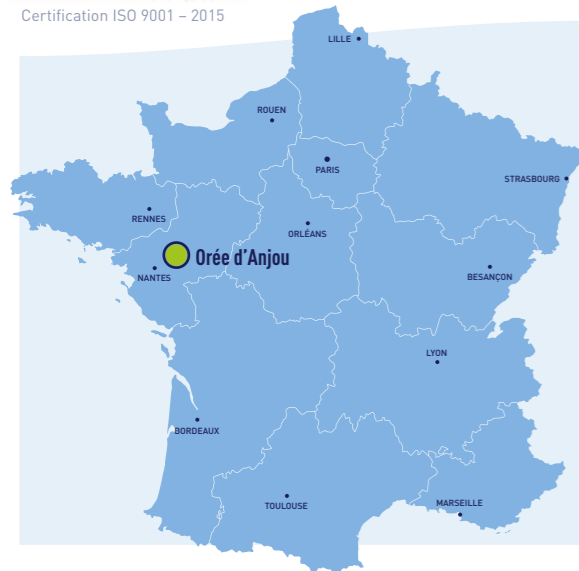
# LDPE recycling solutions

In Orée d'Anjou, at the heart of the dynamic Pays de la Loire region, SUEZ operates a plant specialised in the treatment and recovery of LDPE waste.



RecyClass

Certification ISO 9001 – 2015



## Societal and environmental commitment



IPCE (Installations Classifiées pour la Protection de l'Environnement) site



**55,000 tonnes** of used agricultural film are collected every year in France, more than a quarter of which is recovered in the Landemont plant. The three production lines of used agricultural film process 38,000 tonnes per year and produce 18,800 tonnes of recycled LDPE (r-LDPE) pellets.

**In order to meet the needs of manufacturers and the regulatory objectives concerning the recovery of plastics**, 2 treatment lines for industrial and commercial films was commissioned early 2019. The line will recycle yearly 22,000 tonnes of plastic film and produce an additional 15,200 tonnes of r-LDPE pellets.

SUEZ is thus able to market over 34,000 tonnes of r-LDPE, which replaces virgin material.

## THE + POINTS

### Membership of a large-scale group

SUEZ brings global solutions in terms of the management and recovery of all types of waste.

### Customised formulation

Thanks to the work done upstream on the properties and the quality of incoming materials used, outgoing products from our plants are adapted to the needs of each of our customers.

### Quality control

All incoming materials are weighed, checked and recorded. Quality is monitored throughout the industrial process.



## DID YOU KNOW?

When compared with one a tonne of virgin material, the production of one tonne of r-LDPE from used LDPE films consumes:

3 times less energy

2 eq. t less CO<sub>2</sub>  
the equivalent of more than 8 round trips by plane from Paris to Marseille

# Supply



## SUEZ recycles

low-density polyethylene films

- **used in agriculture:**
  - solarisation films, forcing films
  - silage tarps
  - mulching films
  - wrapping films
  - flexible irrigation pipes
- **used in industry:**
  - stretchable films
  - overwraps
  - shrink films

## Material expertise

A visual quality inspection is performed upon the arrival of each recycling truck. A quantitative analysis of the humidity and rate of contamination is performed regularly and randomly by core sampling to monitor the quality of the plastic received.



## Means to ensure quality An on-site laboratory

These facilities enable regular quick checks on incoming and outgoing materials in terms **density**, **fluidity** and **moisture content**.

The laboratory also allows us to produce films by blown film extrusion, and to perform 'filter tests' in order to assess the contamination rates.

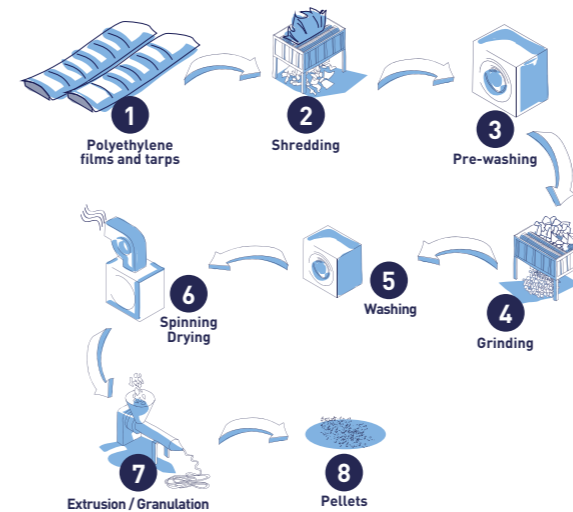
# High-quality, certified recycled products

Our plant is equipped with 5 production lines including several stages: grinding / washing / extrusion / granulation.

SUEZ differentiates itself through its technical specificities:

- ability to process agricultural plastics that are over 50% contaminated by mineral and/or soil vegetable pollution;
- systematic sorting of industrial and commercial plastics to obtain high-quality recycled material;
- internal recycling of washing water (> 350 m<sup>3</sup>/h) with water treatment units.

## Process Used agricultural film



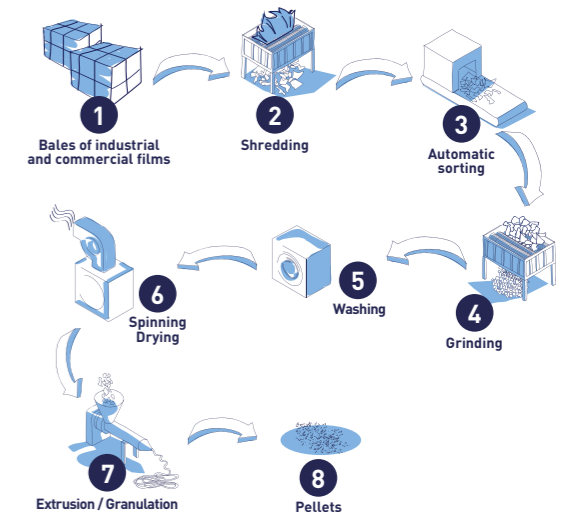
## Products specificities

Translucent → T range

Black → N range



## Process Industrial and commercial film



## Product specificities

Translucent → T800 range





## Industrial and technical applications

The products marketed by SUEZ enable converters to integrate high-quality recycled materials into the manufacture of their products.

- Building films, agricultural films, bubble wrap
- Reusable shopping bags, bin bags, waste sorting bags
- Flexible irrigation pipes, other pipes
- Parts for the automotive industry,...



### FIND OUT MORE...

The main technical characteristics of our recycled raw materials are detailed on our product data sheets.

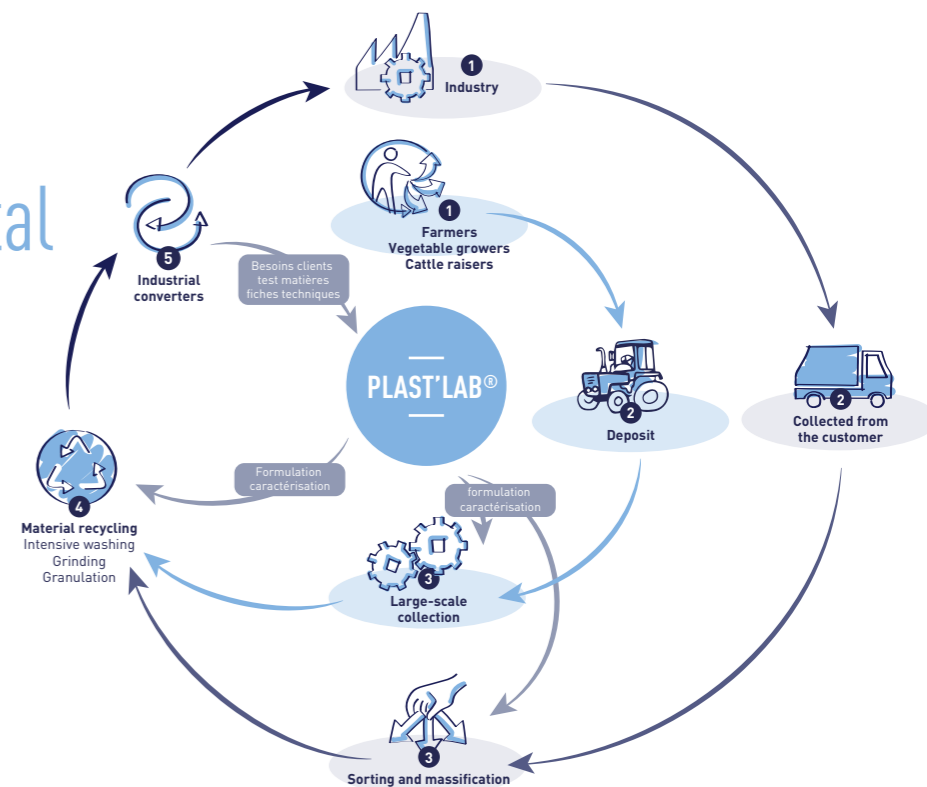
## Appropriate marketing and logistics

The secondary raw materials produced via LDPE recycling are marketed by SUEZ to plastic converters in France and abroad, who integrate them into their manufacturing processes.

With its logistics service, SUEZ can adapt to delivery requirements.

Products are packaged in big bags or in bulk and delivered by approved carriers.

## SUEZ at the heart of your environmental issues



## The SUEZ Research & Development support laboratory: PLAST'LAB®

With state-of-the-art techniques for the characterisation of polymers and additives:

- DSC (differential scanning calorimetry)
- FTIR (Fourier-transform infrared spectroscopy)
- TGA (thermogravimetric analysis)
- X-ray fluorescence...
- Various techniques to characterise mechanical properties
- Formulation laboratory...

> **STRENGTHENING TRUST**  
in recycled raw materials among converters



> **MAINTAINING DIALOGUE**  
with users of recycled raw materials



> **DEVELOPING**  
the recycled raw materials of tomorrow



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