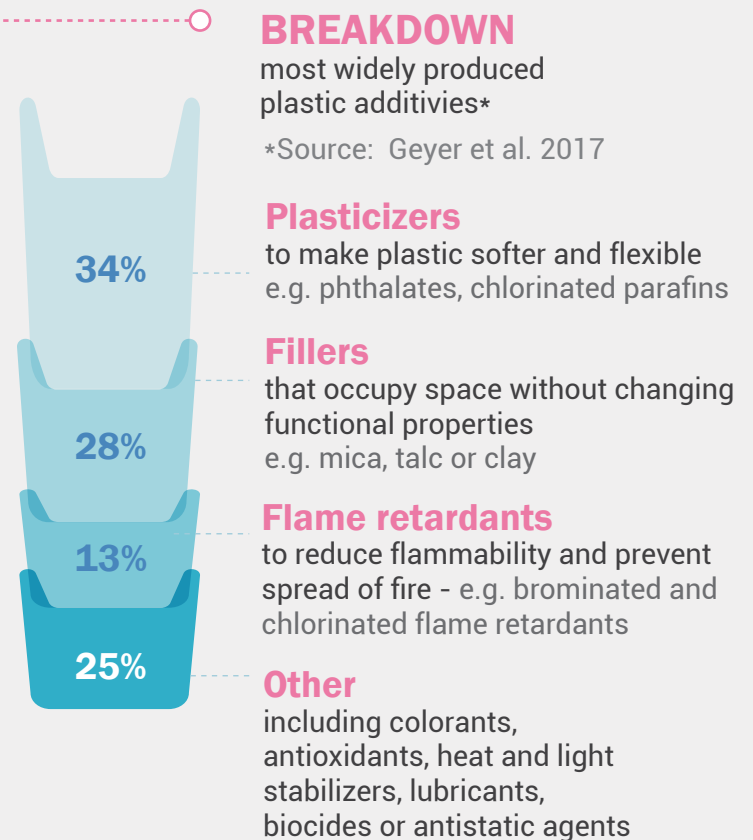
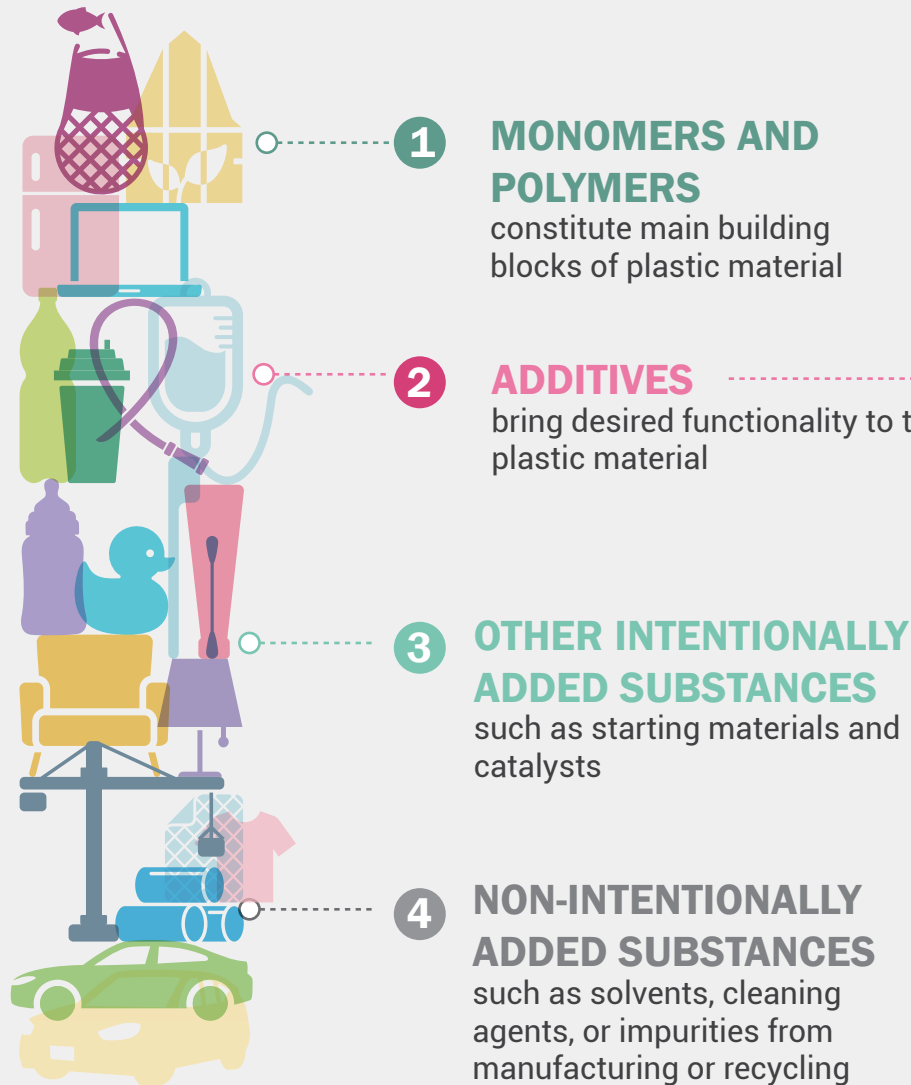


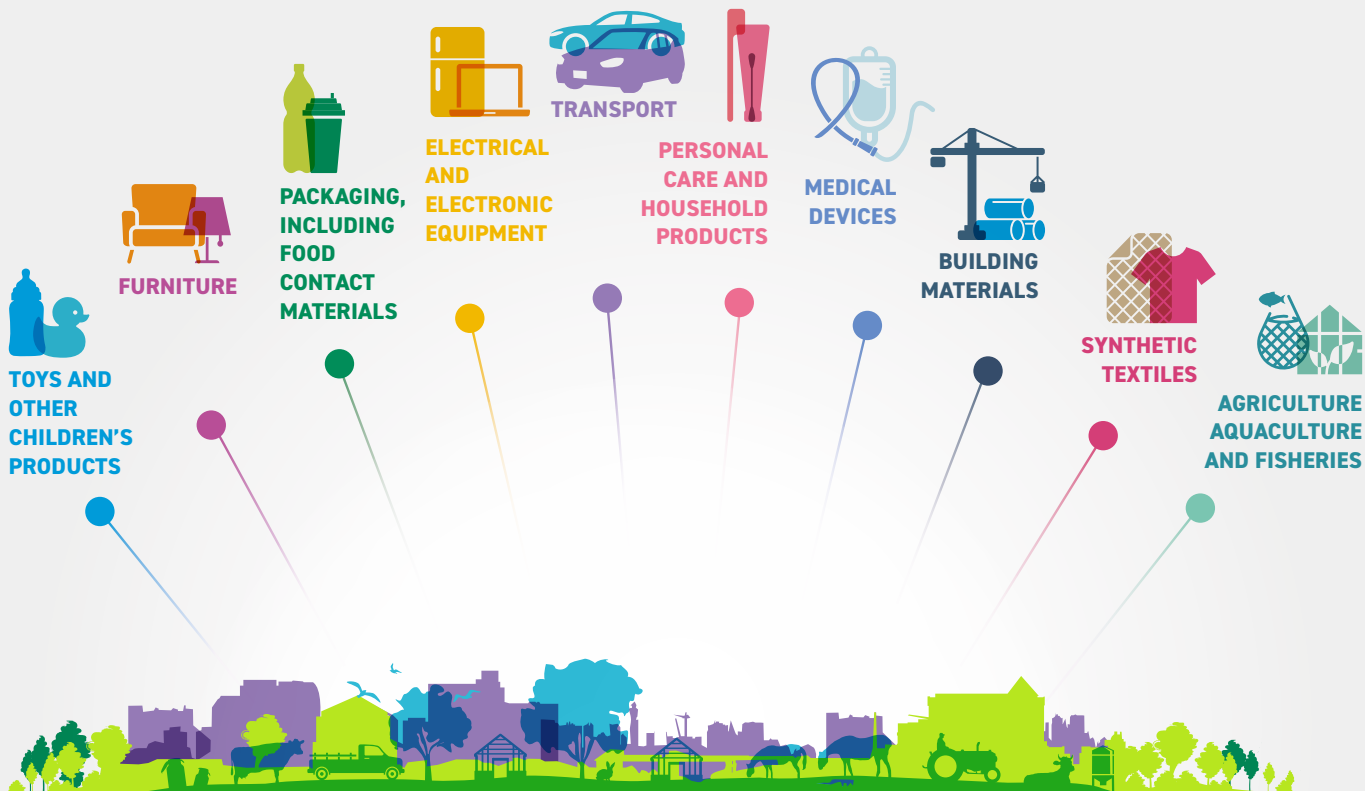
# ANATOMY OF PLASTICS

## WHAT'S IN MY PLASTICS?



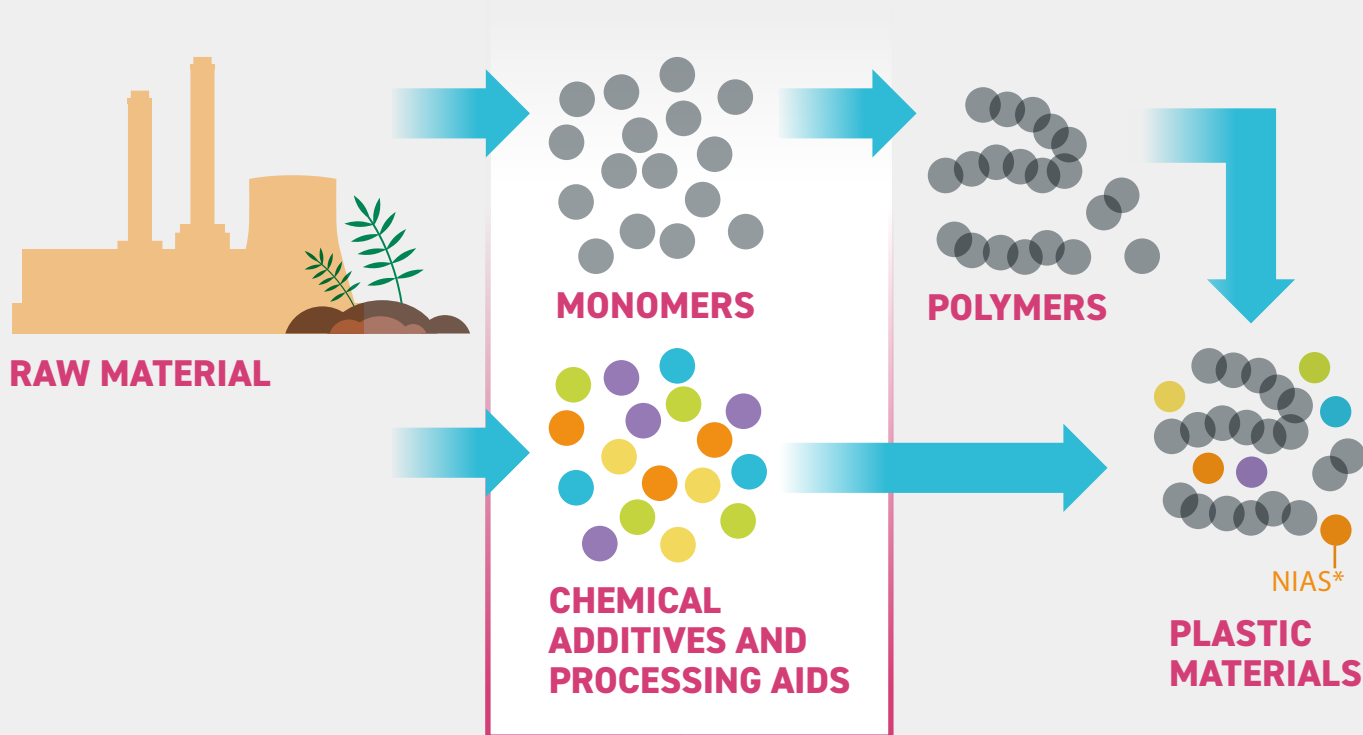
# CHEMICALS IN PLASTICS PRIORITY USE SECTORS

Source: United Nations Environment Programme and Secretariat of the Basel, Rotterdam and Stockholm Conventions (2023). *Chemicals in plastics: a technical report*. Geneva.



# CHEMICALS IN PLASTICS OVERVIEW

Source: United Nations Environment Programme and Secretariat of the Basel, Rotterdam and Stockholm Conventions (2023). **Chemicals in plastics: a technical report**. Geneva.



**> 13,000**  
so far identified or  
detected in plastics as  
monomers, additives  
and processing  
aids

**> 7,000**  
analyzed for  
their hazardous  
properties

**> 3,200**  
of potential  
concern

\*NIAS = non-intentionally added substances, including (1) break-down products of polymers, additives and other chemicals in plastics, (2) impurities, (3) contaminants from processing such as production and recycling, and (4) reaction byproducts.

# CHEMICALS OF CONCERN IN YOUR PLASTICS

**> 13,000**  
so far identified or  
detected in plastics as  
monomers, additives  
and processing  
aids

**> 7,000**  
analyzed for  
their hazardous  
properties

**> 3,200**  
chemicals  
of potential  
concern

METALS  
AND  
METALLOIDS

FLAME  
RETARDANTS

PER- AND  
POLYFLUOROALKYL  
SUBSTANCES  
(PFASs)

BISPHENOLS

NON-  
INTENTIONALLY  
ADDED  
SUBSTANCES  
(NIAS)

ALKYLPHENOLS  
AND ALKYLPHENOL  
ETHOXYLATES  
(APEOs)

UV  
STABILIZERS

BIOCIDES

POLYCYCLIC  
AROMATIC  
HYDROCARBONS  
(PAHs)

PHTHALATES



# HUMAN EXPOSURE TO CHEMICALS IN PLASTICS

## SOURCES



**EVERYDAY PLASTIC PRODUCTS**, e.g. plastic-based food contact materials, building materials, electronics, textile, clothing and personal care and household products



**CHILDREN'S** products e.g. toys, clothing or furniture.



**OCCUPATIONAL** exposure at various stages of the plastic value chain

## EXPOSURE PATHWAYS examples

inhalation of contaminated air

ingestion of contaminated food, water and dust

dermal contact



## ADVERSE HEALTH EFFECTS examples

abnormal hormone functions

reduced fertility

damaged nervous system

hypertension/  
cardiovascular disease

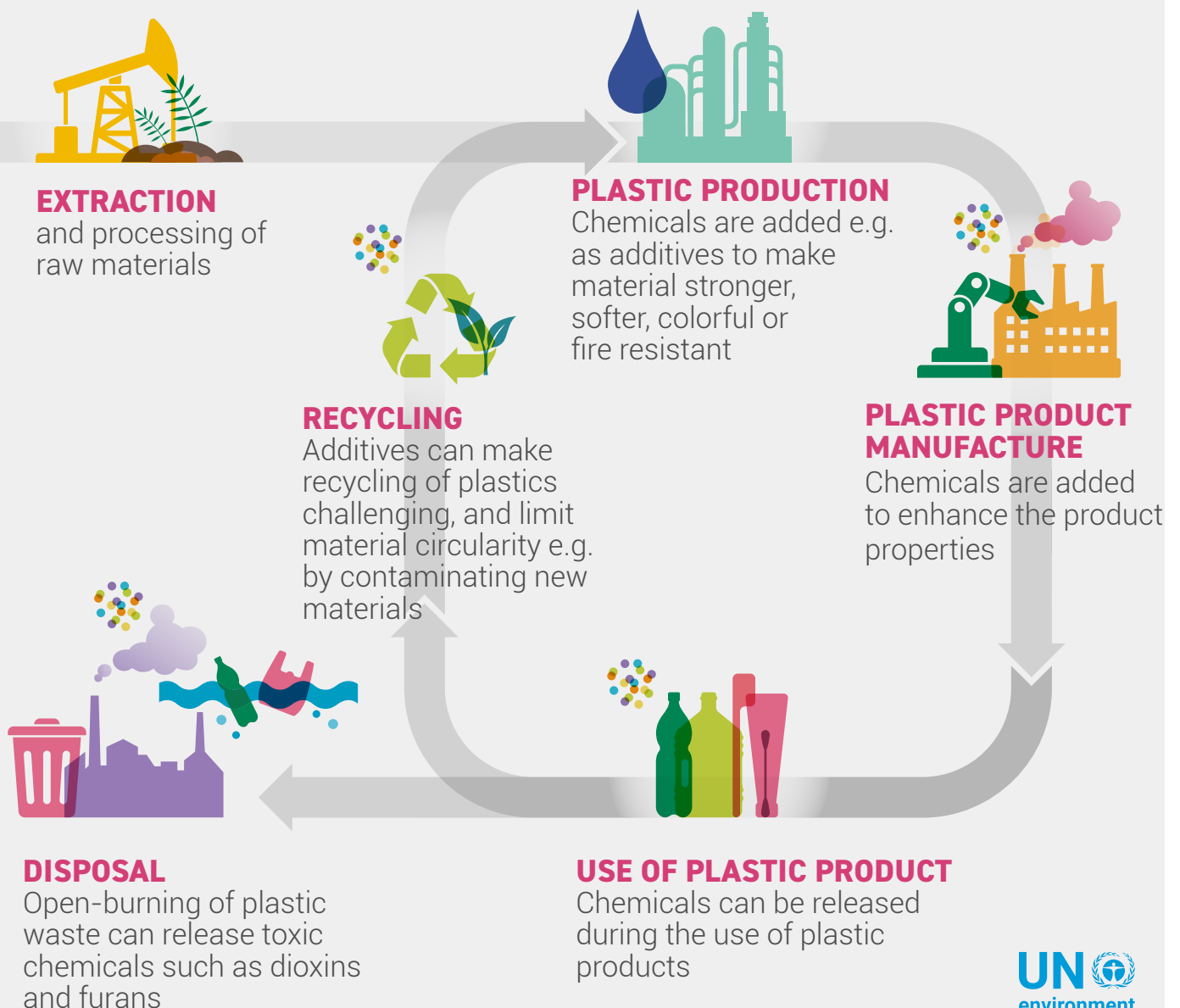
lung and liver cancer

Source: United Nations Environment Programme and Secretariat of the Basel, Rotterdam and Stockholm Conventions (2023). **Chemicals in plastics: a technical report**. Geneva.

# HAZARDOUS CHEMICALS ALONG THE PLASTIC LIFE CYCLE

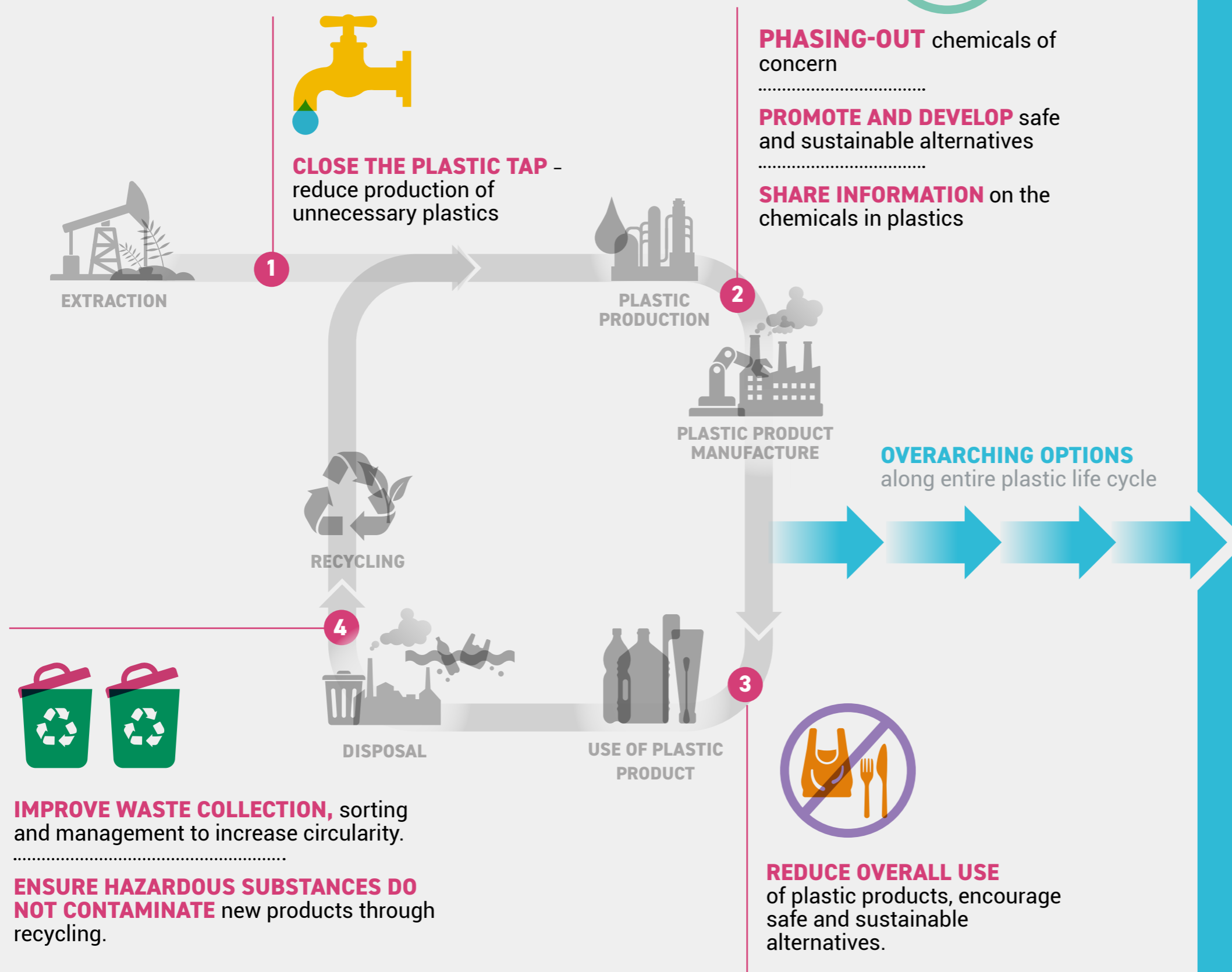
Source: United Nations Environment Programme and Secretariat of the Basel, Rotterdam and Stockholm Conventions (2023). [Chemicals in plastics: a technical report](#). Geneva.

Hazardous chemicals can be released from plastics along the entire life cycle, finding their way to air, water and soils.



# OPTIONS FOR ADDRESSING CHEMICALS ALONG THE PLASTIC LIFE CYCLE

Source: United Nations Environment Programme and Secretariat of the Basel, Rotterdam and Stockholm Conventions (2023). *Chemicals in plastics: a technical report*. Geneva.



## REGULATIONS:

**ADDRESS** fragmentation and gaps in legal frameworks to cover chemicals along plastic life cycles

**RESTRICT** chemicals of concern in plastics globally



## SCIENCE:

**DEVELOP** more robust methodologies to assess human and ecosystem exposure, and further research on impacts, in particular with respect to mixtures and multiple exposure pathways.



## TRANSPARENCY:

**IMPROVE** transparency and information-sharing on chemicals along the plastic value chain



## AWARENESS RAISING:

**RAISE** awareness on workplace safety and exposure reduction measures along the plastic value chain