



INTERPOL

# RADIOLOGICAL AND NUCLEAR TERRORISM PREVENTION UNIT (RNTPU)

## INFORMATION TO SCRAP OPERATORS

### RADIOACTIVE MATERIAL IN SCRAP METAL



Improper disposal of radioactive material can cause extensive contamination across an entire facility, often leading to shutdowns and in some cases to extremely costly clean-up operations.

During scrap processing activities such as fragmenting, shearing, milling, or cutting, the shielding may be compromised thus creating a risk of significant external radiation exposure for the employees as well as extensive contamination of the environment. The radioactive contamination can further spread beyond the scrapyard into neighbouring areas thus increasing risk to not only workers but to the general populations through exposure, ingestion and inhalation.

If a radioactive source is ruptured during smelting, contamination can affect furnace linings, slag handling systems, filtration units, and even final product. In such cases plant shutdown and decontamination of the entire environment are not only highly expensive but also time consuming.

Based on the data available to INTERPOL's RNTPU, the most frequently reported portable industrial devices involved in these incidents are moisture density gauges (containing americium 241/beryllium and/or cesium-137), gamma cameras (containing iridium-192 or cobalt-57) and lead paint analysers (containing cadmium-109 or cobalt-57). (Examples below)



Figure 1 - Radiography  
Gamma Camera  
(iridium-192 or cobalt-57)



Figure 2 - Moisture  
Density Gauges  
(americium-241/beryllium  
and/or cesium-137)



Figure 3 - Moisture  
Density Gauges  
(americium-241/beryllium  
and/or cesium-137)



Figure 4 - Portable  
industrial X-ray generator



Figure 5 - Medical Linear  
Accelerator, old models  
used cobalt-60



Figure 6 - Lead paint  
analyser (cadmium-109  
or cobalt-57)



Figure 7 - Smoke detector  
(americium-241)

## WHAT CAN YOU DO TO PROTECT YOURSELF?

In the event of discovering a radioactive source or item possibly linked to one such as its container:

- Do not touch the device/material and put distance between yourself and the device/material
- Immediately notify the scrapyards manager
- Inform the state regulatory authority for radiological and nuclear security
- Where criminality is suspected contact the relevant local law enforcement agency

## WARNING INDICATORS TO WATCH FOR:

International radiation symbol (trefoil), usually black on yellow or red on black.

The word **"Radioactive"**

Label with **isotope name and activity level**

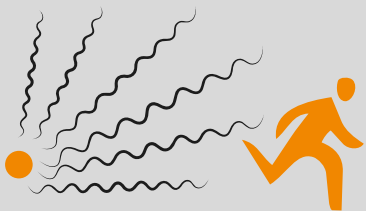


## THREE BASIC PRINCIPLES HELP REDUCE UNNECESSARY EXPOSURE TO RADIATION:

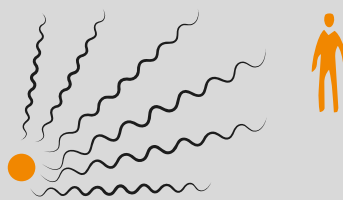
**Time:** Minimize the duration of exposure to the radioactive source.

**Distance:** Maximise the space between yourself and the source.

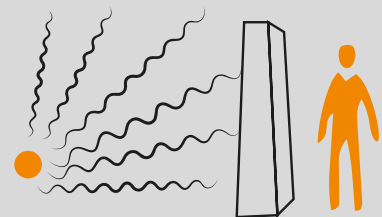
**Shielding:** Use protective barriers to block radiation. Thick layers of lead, concrete, bricks, etc can provide some shielding depending on its thickness and strength of the source.



**Less time spent near source:**  
less radiation received.



**Greater distance from source:**  
less radiation received.



**Behind shielding from source:**  
less radiation received.

## CONTACT INFORMATION

Agency to call:

Phone number:

Email address:

Website for more information: