World-class radiochemical products

Reactor core vessel and irradiation rigs

The NTP range of bulk radiochemical compounds

NTP Radioisotopes SOC Ltd, a subsidiary of the South African Nuclear Energy Corporation SOC Ltd (Necsa), conducts operations at the Pelindaba nuclear facility in South Africa. NTP produces, in ISO 9001:2008 and cGMP certified processing facilities, a range of radiochemicals that are exported, routinely, on time and reliably, to customers on all continents. The range of NTP radiochemical fission products currently includes:

- Molybdenum-99
- Iodine-131

NTP facilities and resources

NTP is uniquely positioned amongst world radiochemical producers in that it has, on one site, direct control over and access to all the facilities, processes and ancillary resources necessary to produce and distribute these materials as well as manage the safe treatment of any associated waste streams.

Target irradiations of relevant materials, sourced and prepared on site in most cases, are performed in the high-flux SAFARI-1 20 MW nuclear reactor (ISO 9001:2008 and ISO 14001 certified). These are then transferred to the adjacent radiochemical processing facility (an ISO 9001:2008 certified operation). In this large hot cell complex, various chemical processing steps are performed prior to dispensing of finished bulk radiochemical products to customers' specification and despatched to the required destinations.

Reliable supply and high quality products

As part of its commitment to reliability of supply, NTP has built up a large fleet of radiochemical transport containers, designed, manufactured, tested on-site by NTP specialists and certified to international standards and requirements. Extensive attention to logistics resulted in NTP establishing airline transport routes which are not only reliable and efficient, but for which stand-by arrangements are in place, to most major destinations globally.

Environmental management is maintained according to ISO 14000 guidelines and personnel health and safety systems and performance are of the highest international standards.

NTP

Actively enhancing life

NTP Radioisotopes SOC Ltd

The NTP difference – total commitment to reliable supply of top quality radiochemicals at competitive prices – anywhere in the world!

- NTP has taken much care to minimise the risk of supply disruptions and failures. In addition to its container fleet and various key logistical arrangements, NTP has negotiated contingency supply arrangements with IRE, a major radiochemical producer in Europe, having access to several independent reactor operations
- NTP has an enviable record of timely deliveries exactly to customer specification and continually monitors its performance in this regard. Close contact is kept with customers during all phases of supply, from order taking and specification to shipping and after sales service and consultation. Every effort is made to regularly consult personally with customers to evaluate changing needs
- NTP radiochemical product specifications, tailored to customer requirements, are assured by an on-site, internationally accredited radiochemical analytical laboratory
- NTP provides free sample quantities for trial purposes to serious potential users of its new or existing radiochemical products
- NTP has at its disposal highly qualified and experienced personnel, both within the business and by arrangement with Necsa, its parent organisation
- NTP is flexible in terms of quantities, composition and despatch of any radiochemical order depending on customer preferences
- NTP is totally committed to meeting the radiochemical needs of all its customers worldwide
- NTP's joint venture with ANSTO to develop a Mo-99 manufacturing facility at Lucas Heights in Sydney Australia, will inject an additional 3000 Ci per week into the market

Radiochemical production operations at the NTP hot cell complex

Critical components of radiochemical production operations – on one site

- A 20 MW Oak Ridge-type 'swimming pool' reactor (SAFARI-1), which is operated by highly skilled and experienced personnel, and has an exemplary record since 1965
- The SAFARI-1 reactor operates continuously on a fully low enriched (LEU) fuel with a U-235 content of less than 20% – conforming to International Safeguards requirements
- A hot-cell complex, equipped to safely produce and handle materials with high levels of radioactivity
- Chemical processes for the extraction and purification of fission isotopes
- An adequate supply of Types A and B(U) transport containers – designed, manufactured and licensed by NTP
- Independent and accredited radio-analytical facilities
- A licensed, operational site for waste disposal
- Contingency supply agreements with other major radiochemical producers
- Special arrangements and stand-by options with major airlines serving all continents
- Sophisticated marketing and distribution systems, and ISO 9001:2008 and cGMP certified production facilities
- Highly qualified and motivated production and marketing personnel

Benefits to NTP customers

Customers of NTP radiochemicals benefit from its cost-effective, world-class operations, receiving top quality products at competitive prices, which are supplied with an unmatched degree of reliability. Customer satisfaction is important to NTP and every effort is made to ensure that individual requirements are met, and close and effective communication is maintained at all times.

Quality and safety

- ISO 9001:2008
- Current Good Manufacturing Practice (cGMP)
- IAEA Safeguards
- National Nuclear Regulator compliance
- Environmental Management System (ISO 14000 guidelines)
- Impeccable safety and environmental record

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NTP Radioisotopes SOC Ltd

Road R104
Pelindaba
Pretoria, South Africa

PO Box 582
Pretoria 0001
South Africa
www.ntp.co.za

T +27 12 305 5115
F +27 12 305 5960
E marketing@ntp.co.za

K-11417 [www.kashan.co.za]