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## CONTROL OF PRECURSOR CHEMICALS

**Presented at the Sensitization Workshop on the Control and Management of Precursor Chemicals to the Chemical Supervisors**

**10 November, 2024 at the Dr. Mafumiko Conference Hall, Dodoma, Tanzania.**





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What are the precursor chemicals?

List of Controlled Precursor Chemicals

How Precursor Chemicals Used to Manufacture Drugs

Challenges With New Psychoactive Substances

Diversion of Precursor Chemicals

Diversion Preventive Measures

Offences and Penalties





# 1. Precursor Chemicals ?



- Chemicals that are known to be used in the **illegal** manufacture of **Narcotic** and **Psychotropic DRUGS**,
- However, **they are legally** commercial in various industrial processes and consumer products such as medicines, cosmetics and flavorings.
- Some are used as a **Reagent, Solvent, Catalyst, Essential Chemical, Immediate precursor**





# 1. Precursor Chemicals – Use and Diversion Cases



Chemical	Legal Use	Illegal Use	Diversion Case
Acetic Anhydride (AA)	Manufacturer of aspirin, acetaminophen, plastics, perfumes, textiles, dyes, cigarette filters	Synthesis of Heroin	High grade Cashew Co.Ltd (Tanzania) smuggled 22 tones to Pakistan in 2016
Pseudoephedrine /Ephedrine	Strong nasal decongestants- used to manufacturer medicinal products against flu and allergies	Illicit synthesis of methamphetamine	Seizure and disposal of 10,000 litres of Codrill syrup after revealed that more than 6 kg of pseud. were diverted in the process.





## 2. Table I Controlled Precursor – International



- Acetic anhydride
- N-acetylanthranilic acid
- 4-Anilino-N-phenylethylpiperidine (ANPP)
- tert-Butyl-4-(phenylamino)piperidine-1-carboxylate (1-boc-4-AP)
- Ephedrine
- Ergometrine
- Ergotamine
- Isosafrole
- Lysergic acid
- 3,4-MDP-2-P-methyl glycidate ("PMK glycidate)
- 3,4-MDP-2-P-methyl glycidic acid ("PMK glycidic acid)
- 3,4—Methylenedioxyphenyl-2-propanone (3,4-MDP-2-P)

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- Methyl alpha-phenylacetoacetate (MAPA)
- Norephedrine
- Norfentanyl
- N-Phenethyl-4-piperidone (NPP)
- Phenylacetic acid
- alpha-Phenylacetoacetamide (APAA)
- alpha-Phenylacetoacetonitrile (APAAN)
- N-Phenyl-4-piperidinamine (4-AP)
- 1-Phenyl-2-propanone (P-2-P)
- Piperonal
- Potassium Permanganate
- Pseudoephedrine
- Safrole





## 2. Table II Controlled Precursor – International



- Acetone
- Anthranilic acid
- Ethyl ether
- Hydrochloric acid
- Methyl ethyl Ketone
- Piperidine
- Sulphuric acid
- Toluene

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## 2. Controlled Precursor Chemicals - International



### Table 1

- Contain **most sensitive** substances, from which illicit drugs can be produced most easily,
- It contains the substances that are **readily convertible** to controlled drugs, and are subject to the strictest controls,

### Table 2

- Covers bulk chemicals that can have different types of uses in the manufacturing process (feedstock, but also solvents, reagents, impurity remover).





# 3.The use of Precursor Chemicals in Drugs: - Cocaine and Heroin



**Semi-synthetic Drug:** are subsequently modified chemically



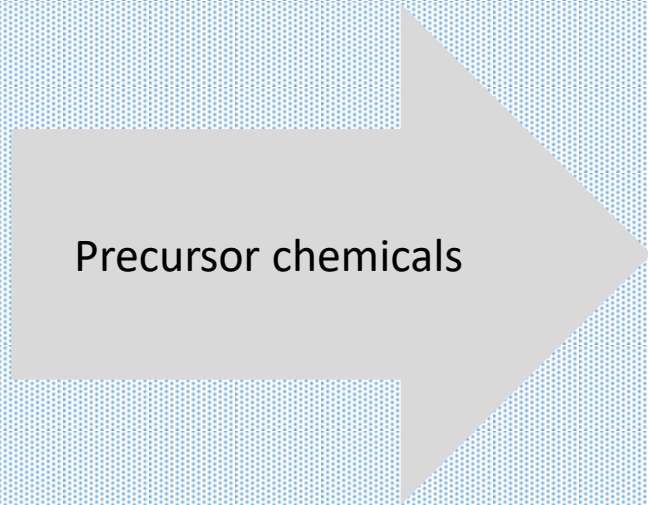
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*Erythroxylum coca*



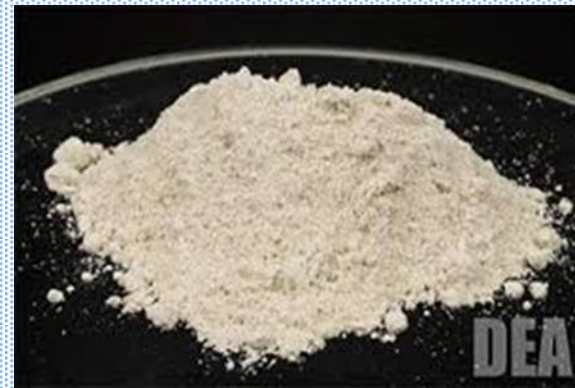
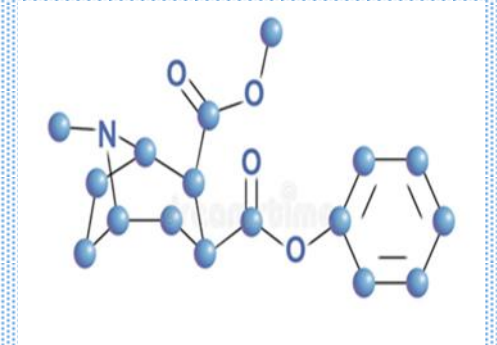
*Papaver somniferous*



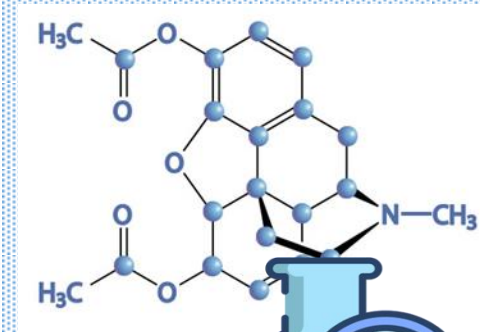
Precursor chemicals



*Cocaine*



*Heroin*





### 3.The use of Precursor Chemicals in Drugs: - Heroin



brown powder heroin



black tar heroin



Heroin liquid packets



white powder heroin





### 3.The use of Precursor Chemicals in Drugs: - Cocaine

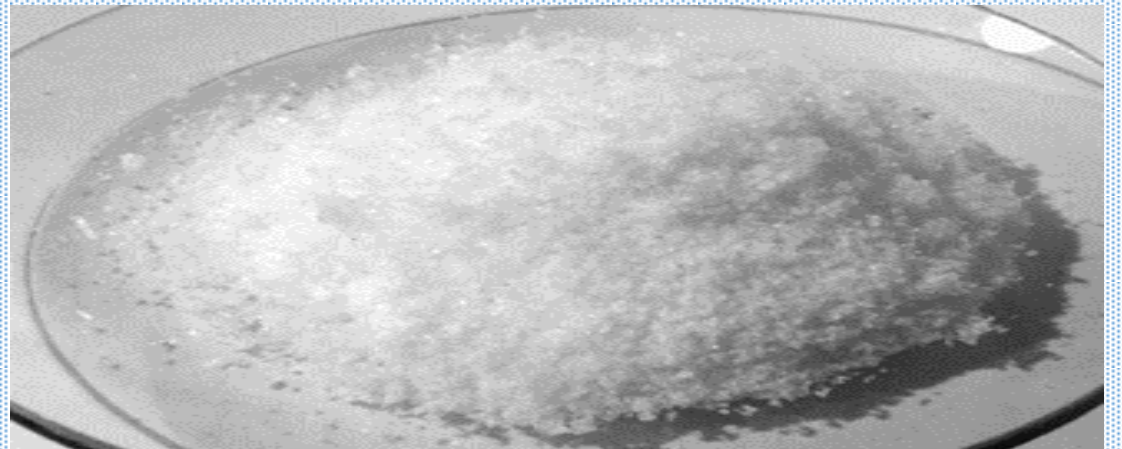


Cocaine in various forms





# 3.The use of Precursor Chemicals in Drugs Synthesis- Pseudoephedrine



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#### 4. Diversion of Precursor Chemicals in Drugs (synthetic)

Licit use

Industrial, mining, agriculture, construction, researches, Health



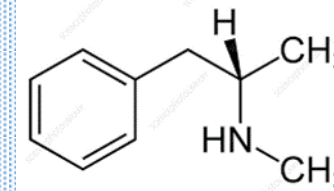
Illicit use



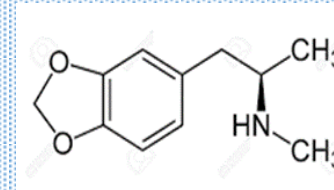
Precursor Chemicals



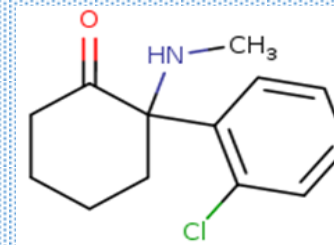
Methamphetamine



MDMA (Ecstasy)



Ketamine (Special K)



New Psychoactive Substances "NPS"





# 4. Diversion of Precursor Chemicals in Drugs Synthesis- Clan Lab

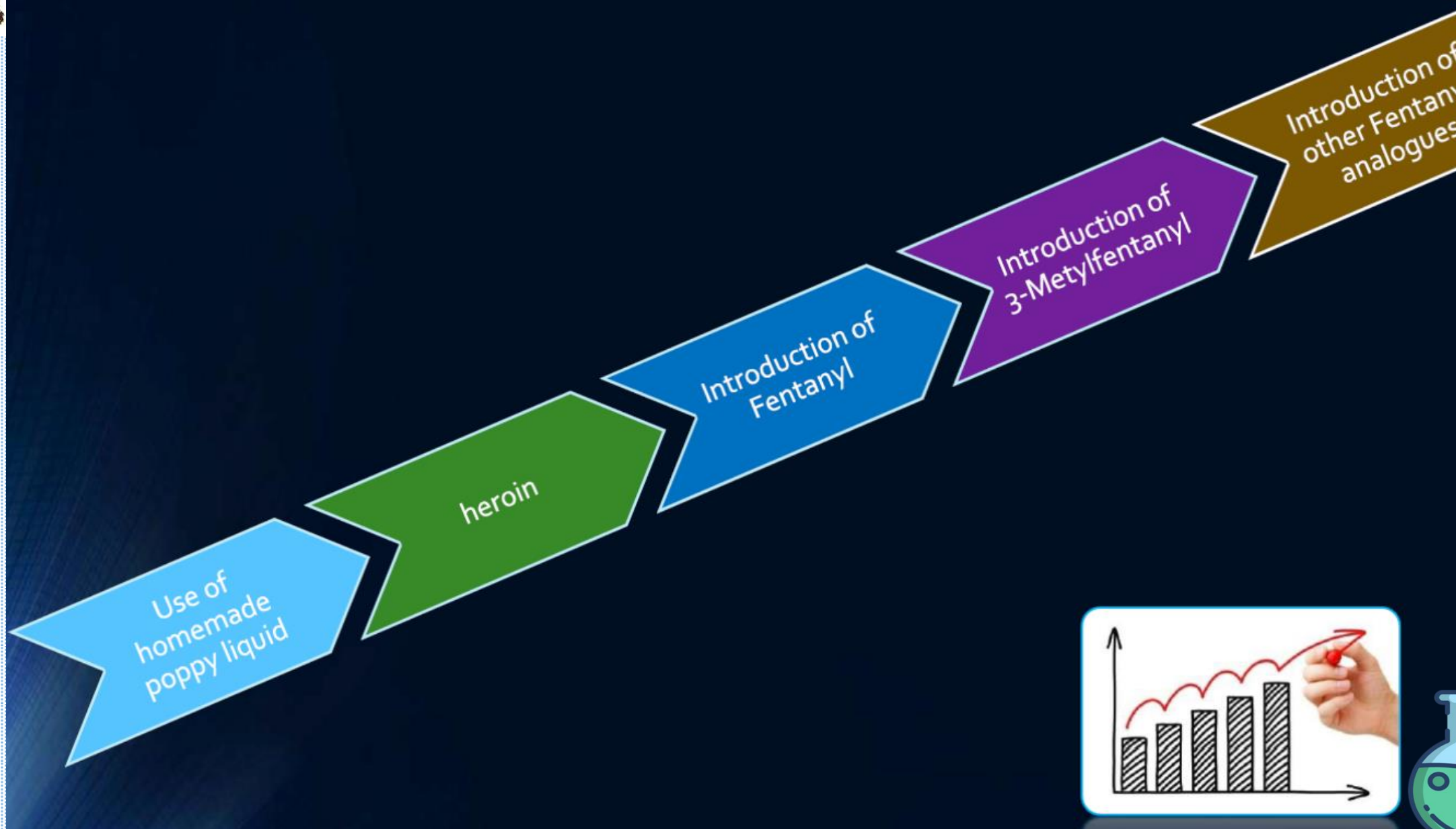


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# 4. Challenges with New Psychoactive Substances



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## 4. Challenges with New Psychoactive Substances (NPS)



Lethal dose of Heroin, Fentanyl and Carfentanil  
Opioid potency





## 5. Natural vs synthetic drugs



### Naturally derived

- From nature, often in plants
- Alkaloid concentrations generally limited; rudimentary extraction procedures
- Discovery is slow
- Eg: cocaine, cannabis, opium, morphine, heroin

### Synthetic derived

- Produced artificially using chemicals or plant-based inputs
- Purity can be higher given refinement
- Discovery is very fast
- Eg: Amphetamine-type stimulants, synthetic cannabinoids, synthetic opioids (fentanyl, tramadol)







## 6. Diversion of Precursor Chemicals



### Areas of Diversions?

#### Legitimate Market

- Individuals
- Companies
- Manufacturers
- Legally sells distribute or use chemical

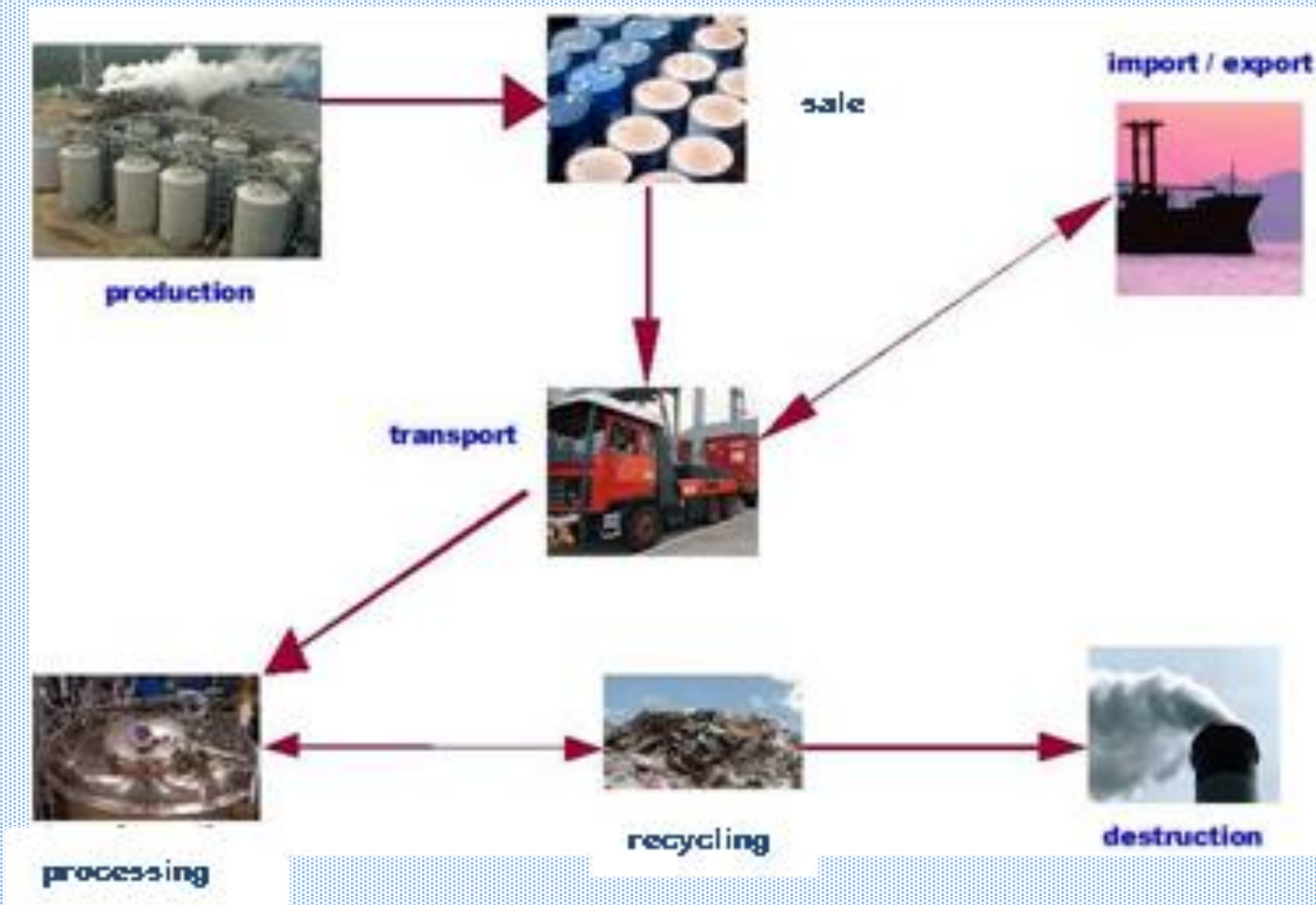
#### Black Market or Illicit Drug Industry

- Ghost Companies
- Individuals with false documentation
- Legitimate companies that sell excessive quantities to narcos





## 6. Diversion of Precursor Chemicals





## 6. Diversion of Precursor Chemicals



Common modus operandi of diversion can be:

- 1) **Pilferage** from lorries during transportation,
- 2) **Mis-declaration** of description during importation/exportation,
- 3) Use of **forged** Authorized documents (permits, Invoices, BL),
- 4) **Manipulation** of quantity in the documents,
- 5) Orders against **non-existent firms**,
- 6) Chemicals at **unregistered locations**,
- 9) **Cargo robbed** in transit between port and final destination,
- 10) Use of the name of a bonafide company but specifying **false contact address**



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## 6. Diversion of Precursor Chemicals: Detecting the Diversion



### ❑ Manufacturing Case-scenario : Mass balance



- Final products ( quantity/volume)?
- Manufacturing methods (formulation)?
- The inputs vis a vis outputs?
- Quality assurance of the products?





# 7. Diversion Preventive Measures



Strategies to prevent the Diversion of Precursor Chemicals in Tanzania



Strengthened Legislative Measures (mandatory compliance)

Implement Regional, International Conversions and Protocol

Enhanced information sharing mechanism and use of UNonline platforms

Established a voluntary compliances through Public -Private partnerships



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# 7. Diversion Preventive Measures



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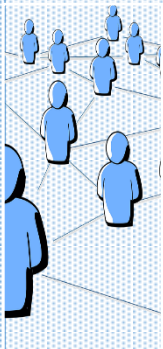
## Legislative Measures

- › Compliances to the fullest



## Implement Conversions and Protocol

- › Regional and International protocols and UN Conventions (1988)



## Enhanced information sharing mechanism

- › Sharing of information among stakeholders,
- › Use of INCB platforms.



## Public Private Partnerships (Voluntary compliance)

Private Sector should take part in preventing diversion



# 7. Diversion Preventive Measures



## LEGISLATION

The Industrial and Consumer Chemicals (Management and Control) Act, CAP 182,

The Drugs Control and Enforcement Act, (CAP 95),

Tanzania Medicines, and Medical Devices Act, (CAP 219)

United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988





## 7. Diversion Preventive Measures



Section 15 (b) and 15A of the DCE Act prohibits illegal possession, trafficking, manufacturing, and diversion or dealing in any way with precursor chemicals,..

30 years imprisonment for trafficking precursor chemicals of 100 Litres or below (liquid form) or 100 Kg or below (solid form),

Life imprisonment for the trafficking of precursor chemicals above the quantity prescribed in section 15A,







## 7. Diversion Preventive Measures



Section 29(1) (C); narrates for unbillable offences

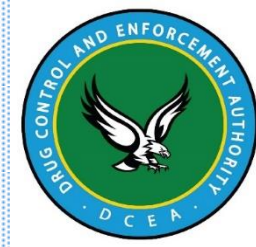
Trafficking of precursor chemicals weighing 30 Kg or more (solid form) or measuring 30 Litres or more (liquid form)





# 8. Achievement:

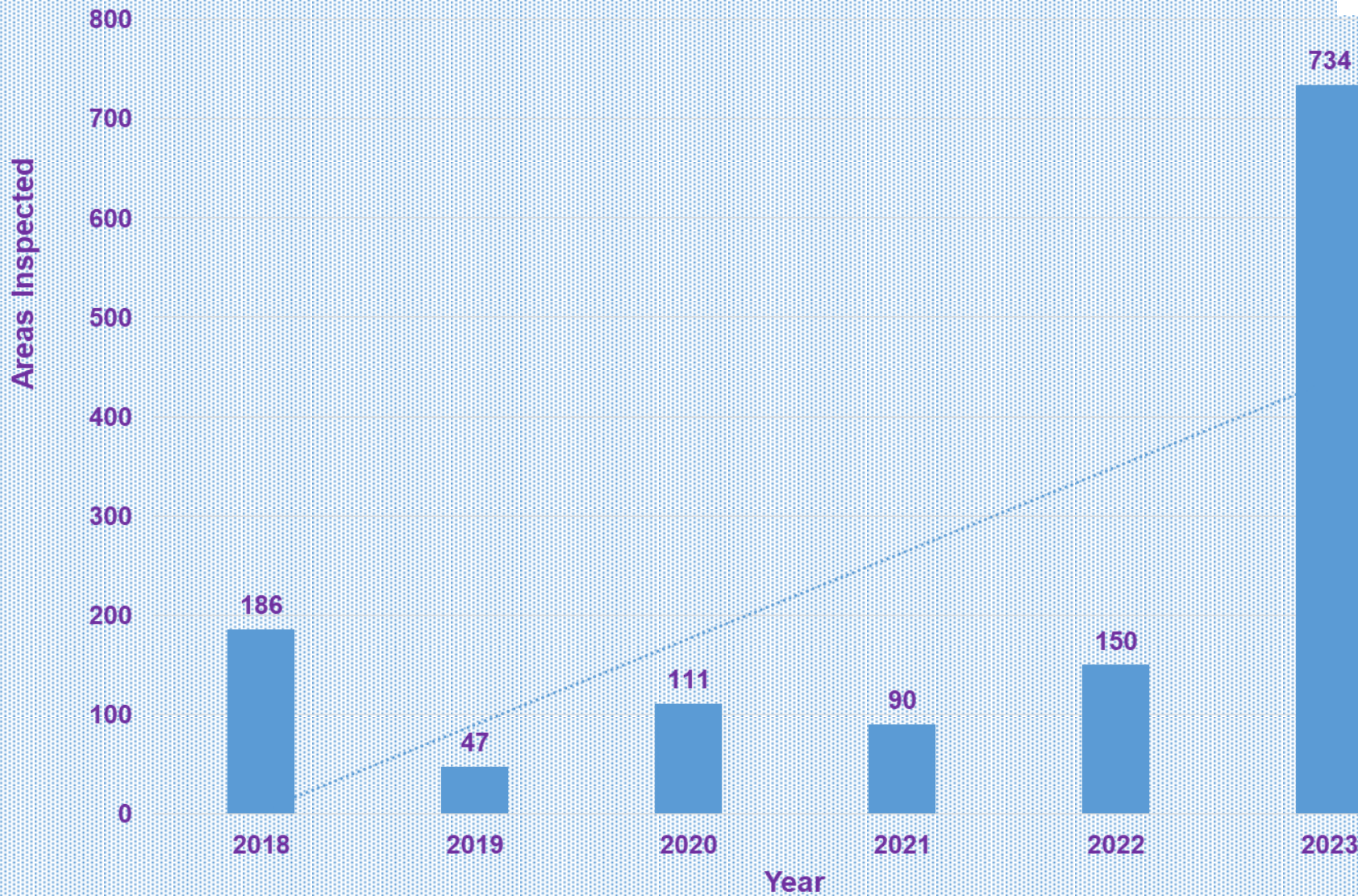
## Areas Inspected (2018 -2023)



- Chemical Companies
- Pharmaceutical outlets
- Ports & ICD's
- Courier Services
- Border Posts



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# 8. Area of Inspection



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# 8. Area of Inspection



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## 8. Achievement ( 2017 –Aprili, 2024)



Seizure of **22,000 kg** and **326,000 L** of precursor chemicals

Objected the importation of **750.7 tons** and **1085 L** of precursor chemicals

Seizure of **1,956.9 gm** and **66,672 mL** of controlled pharmaceuticals



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## 9. What Should Be Done?





**Thank you for your  
attention**



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