

# DEZO CHEMICAL

## Non-cyanide Gold Extraction Reagent



### Application Scope:

Dezo non-cyanide gold extraction reagent is the pioneering high-tech product in the world, which, replacing the sodium cyanide, is used for gold ore dressing. As the substitute for the sodium cyanide, it can be used directly for gold production, without changing the original technology of cyanide gold extraction and the related equipment.

Dezo non-cyanide gold extraction reagent can be used in production processes including heap spraying, tank leaching and carbon leaching (agitation and leaching) in gold and silver oxide ores, raw ore, sulfide ore, E-waste, cyanidation slag and gold concentrate.

### Product Features

100% substitute of sodium cyanide

100% eco gold-leaching

100% safe usage



### Related Qualification Certificates and Reports of Dezo

| Item  | Certificate No.      | Remarks   |
|---|----------------------|---|
| Export commodity code                                     | 2929909090           |   |
| Acute oral toxicity test                                  | No. 1514070168       | Shanghai Research Institute of Chemical Industry Testing Center |
| SGS heavy metal test                                      | SHE14-03411R1        | Service Center for SGS Environmental Test                       |
| Authentication for general goods transportation condition | No. 2014072766/7/8/9 | Shanghai Research Institute of Chemical Industry Testing Center |
| Authentication for toxic substance content in slag        | No. 1914080098       | Shanghai Research Institute of Chemical Industry Testing Center |

## Instructions on Non-cyanide Gold Extraction Reagent

- 1) Application scope: heap spraying, tank leaching and carbon leaching (agitation and leaching) in gold and silver oxide ores, raw ore, sulfide ore, E-waste, cyanidation slag and gold concentrate.
- 2) Product ingredients: sodium oxide, nitrogen, ammonium, calcium, iron, etc.
- 3) Product form: in solid granular or powdery form; soluble in water; usable when being fully dissolved into clear water.
- 4) Usage: The application methods of heap spraying, tank leaching and carbon leaching are the same as that when using sodium cyanide. During the production, the pregnant solution and the barren solution can be reused. It would be better to use activated carbon for pregnant solution adsorption in gold extraction. Environment temperature over 10 °C would be better for gold leaching process. This method is compatible with the cyanide process.
- 5) Basicity: The PH value keeps at 10~12 generally when being adjusted with lime or caustic soda, while  $11\pm 1$  when being adjusted with backwater after the heap spraying or tank leaching of the raw ore.
- 6) Dosage: The dose of the reagent is roughly 5.0~10.0/10,000 of the ore volume (500~1000 gram of reagent/ 1 ton of ore), which may be changeable with the property, grade and pH value of the ore. The practical dosage can be calculated based on the mass concentration of the reagent.
- 7) Dosing method: Use the reagent directly when fully dissolved in water under room temperature (Generally, the moving water and sufficient stir can accelerate dissolution.) by spraying the non-cyanide gold extraction reagent to make it dissolved in the tank (barren solute tank) or putting it directly into the tank for dissolution. For the method of heap spraying, the processes of dosing and spraying can be conducted simultaneously.
- 8) Reagent concentration: Since the composition and pH value may vary with different ores, thus the non-cyanide gold extraction reagent shall be given proportionally and as per the optimum concentration which is calculated based on the actual ore volume and the ore sample test result. The reagent concentration can be tested as per the method provided by our company.

## Potions Concentration Ratio Testing Method

### (I). Testing instruments and reagents required

1. One 250 ml conical flask;
2. One 10 ml volumetric pipette;
3. One 5 ml graduated transfer pipette;
4. One dropper;
5. Test agent (dispensing method: added distilled water into 1.7331 grams of silver nitrate constant volume 1000 ml);
6. Chromogenic agent (dispensing method 0.02 ~ 0.05 g Rhodanine added into 100 ml of acetone).



### (II). Test Method

1. Use the 10 ml transfer pipette to absorb 10 ml liquid to be test into the conical flask;
2. Use dropper to absorb 2 drops of chromogenic agent (about 0.1ml) into the conical flask, and then the liquid becomes yellow;
3. Use the 5 ml transfer pipette to absorb test agent and slowly drip the agent into the conical flask (Titration while shaking conical flask, observation of color changes);
4. When the liquid color change from light yellow to pale red for the titration end point. Stop titration, calculate the amount to test agent milliliter (ml);
5. The amount of consume test agent is the liquid to be test's concentration in ten thousandth (potions concentration ratio), such as consumption to test 0.05 ml the concentration is zero point zero five over ten thousand (0.005 ‰) ; If consumption is 0.3 ml, the concentration is zero point zero three over ten thousand (0.03 ‰); If consumption is 1.0 ml, then concentration is one over ten thousand (0.1 ‰); And so on.