



华金环保型浸金剂说明书

Sinogold Eco-friendly Gold Leaching Instructions

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Sinogold Eco-friendly Gold Leaching Instructions

Sinogold eco-friendly gold leaching agent, SG-Super is applied to various gold, silver, ore leaching, oxidation ore, semi-oxidation ore, primary ore, sulfide ore, gold fine ore, high pressure oxidation ore, biological oxidation ore, sulfur and arsenic containing original ore, cyanide tailings, amalgam tailings, sulfuric acid residue, electronic circuit board, anode mud and other gold.

Sinogold Eco-friendly gold leaching agent is suitable for various gold dipping processes

Heap leaching method, pool leaching method, carbon pulp method (stir leaching)

The production operation method is the same as the sodium cyanide process, and the expensive liquid and the poor liquid in the production can be reused.

Gold extraction, activated carbon adsorption, zinc powder, zinc wire replacement,

The best leaching effect of gold was achieved when the ambient temperature was above 10°C. Sinogold potion is compatible with cyanide extract.

The leaching rate of Sinogold potion is 15-30% faster than that of cyanidation (Sinogold potion is slower in the early stage and faster in the late stage than that of sodium cyanide)

It is advisable to use more drugs according to the experimental data (to avoid the impact on gold leaching and unnecessary waste of drugs).

Transport and Storage

Sinogold Eco-friendly gold leaching agent

The product is common chemical, non-combustible, non-explosive, no oxidant risk, no radiation risk, storage, safety, environmental protection.

It is not subject to restrictions on trading, transportation or control by relevant departments.

Keep away from moisture, water, seal and dry storage

Keep away from acid chemicals and edible articles

Prevent people and animals from eating by mistake

In accordance with the relevant regulations of the state, establish and perfect the system of product safety in production use

Product characteristics

complex

Pale, powdery

Main ingredients: sodium oxide, iron carbide, sulfur, ammonium root.

Dissolution method

The product is soluble in water and can be used when fully dissolved in water at room temperature. (dissolution is usually accelerated in running water or after sufficient stirring)

Adjusting the PH

Generally, lime or caustic soda is used to adjust and maintain the Ph value at about 11.2.

Too high Ph value for a long time (greater than 12) is likely to produce alkali scale, affect the adsorption of activated carbon, or liquid passivation, affect the leaching effect; when the Ph value is lower than 10.5 for a long time, the leaching effect will be affected

Calculate the dispensing

Note: the concentration of polycyanide in Sinogold potion is 35-38%

Dosage can refer to the amount of sodium cyanide

Example: the common oxidized ore and drug dose are 1000g~2000g/ ton, which is about 1.0 ~ 2.0‰ of the ore quantity.

The mass concentration of potions is generally maintained at 0.2-1.2‰ or the titration concentration of potions is 0.075 ~ 0.3‰

Different ore grades and harmful ingredients needs appropriate adjustment of dosage (to carry out mineral processing test, to obtain the best dosage)

Different properties of ore, different grade, different ph, will affect the amount of the potion. The actual dosage can be calculated according to the mass concentration of the liquid.

Calculation method of supplementary dosage

Concentration value - the measured liquid quality concentration value) × the amount of water in the dosing pool

Suppose that the optimal mass concentration of the agent is 1.2‰ (measured by water volume)

The mass concentration of backwater reagent is 0.6‰, and the pool liquid pool is 500 square meters of water

The amount of tonic : $(1.2-0.6) \times 500 = 300$ kg.

Drug concentration

The composition and ph of different ores are different

The best titration concentration (‰) was obtained by the ore sample test, and the mass concentration (‰) was calculated (calculated according to the formula below) :

Solution mass concentration (‰) = solution titration concentration (‰) × 5 (5 is the empirical value)

For example, if the concentration of potion ratio is 0.07‰, then the mass concentration of potion (‰) = 0.07‰ × 5 = 0.35‰ (i.e., the ratio of potion to water is 0.35:1000)

Dispense the potion at a calculated rate.

Heap leaching dosing method

Calculate the amount of water in the tank, weigh and dispense the potion according to the amount of water,

Sinogold potion is to be weighed in a ratio of one kilogram per cubic meter of water,

Put it in a strainer and let Sinogold potion hang in a dispenser, and the pipe will run straight or stir to dissolve the potion.

At room temperature after the powder agent with water fully dissolved can be used

(dissolution is usually accelerated in running water or after sufficient stirring)

(a dosing pool can be built beside the lean liquid pool when pouring)

(allow the backwater after the charcoal to flush the reagent directly into the poor liquid pool)

Adjust the alkalinity of about 11.2 before first adding the potion. When the water in the pool is low, pour alkali and the potion together. Can use two to rush dush bucket to rush dush lime respectively (or caustic soda) with medicaments to dissolve into medicaments cistern (pool of poor liquid) or put medicaments cistern to dissolve, assure potion concentration in cistern is even.

Heap spraying process, dosing, spraying can be carried out at the same time.

Initial stage: control the mass concentration of the potion is about 1‰ (that is, the ratio of potion to water is 1:1000, that is, 1 kg of potion plus 1 cubic water), for 7-10 days.

Middle stage: the quality concentration of the control liquid is about 0.5‰, and the time is 20-30 days.

Later stage: the mass concentration of the control potion is about 0.3‰, the time to the end of adsorption.

The PH value of backwater is kept stable at about 11.2

Leaching and dosing

Calculation method of supplementary dosage

Supplementary dosage = (the best potion quality concentration value - the measured liquid quality concentration value) × the amount of water in the dosing pool

Suppose that the optimal mass concentration of the agent is 1.2‰ (measured by water volume)

The mass concentration of backwater reagent is 0.6‰, and the poor liquid pool is 500 square meters of water

The amount of tonic : $(1.2-0.6) \times 500 = 300$ kg.

After 5 hours of return water circulation, the Ph value remains stable at about 11.2

The concentration was 0.5 ± 0.1 , and the calculation method of dosing was the same as above

The gold content per cubic meter of water can be over 0.5 grams of carbon, compared with the use of sodium cyanide.

Note: the dispensing of Sinogold potion and auxiliary drugs should be carried out under technical guidance

Pool leaching

Add water to soak over 4-8cm on the surface of ore

The potion is drawn from the recovery pool to the mine pool, soaked for 4 hours, and released once.

Check for adjustment of Ph and drug concentration. If Ph value is not enough to reach the standard, lime water or a small amount of caustic soda needs to be added for adjustment.

The dissolved drug concentration should be adjusted to 1.2‰

The method of calculating the dosage of infusion in pool

Supplementary dosage = (the best potion quality concentration value - the measured liquid quality concentration value) × the amount of water in the dosing pool

Suppose that the optimal mass concentration of the agent is 1.2‰ (measured by water volume)

The mass concentration of backwater reagent is 0.6‰, and the poor liquid pool is 500 square meters of water

The amount of tonic : $(1.2-0.6) \times 500=300$ kg.

After potion is dissolved, it is pumped into the mine pool and soaked for 6 hours.

Adsorption

Activated carbon adsorption

Dust replacement

Zinc wire replacement

Product concentration detection method

The method for testing the concentration of Sinogold potion is different from that of the cyanide root that commonly used in cyanidation. The specific detection methods are as follows:

Instruments and reagents required for testing:

1. 1 conical flask of 100ml, 2 pipette of 10ml and 1 red head dropper;
2. Titrant (preparation method: 1.734g A(AgNO₃) reagent was taken, dissolved in distilled water, and the volume was fixed to 1000ml;
3. Sinogold Indicator(100ml/ bottle) (preparation method: take 0.02-0.05g rose silver reagent dissolved in 100ml acetone)

检测办法

- 1、用 10ml 移液管抽取待检测样 5ml 放入锥形瓶中；
- 2、红头滴管取显色剂 5 滴（约 1ml）加入锥形瓶中；
- 3、用另一支移液管取 10ml 测试剂缓慢滴入锥形瓶（边滴定边抖动锥形瓶，观察颜色变化）；
- 4、当液体颜色由浅黄色变为粉红色即为终点，停止滴定，记录所耗测试剂在移液管上刻度；
- 5、当耗去测试剂 10ml，即说明被检测样浓度为 1‰；若耗去测试剂 5ml；说明浓度为 0.5‰；耗去测试剂 1ml 即为 0.1‰，以此类推。

若耗去测试剂 10ml，被检测样仍未变粉红色，则再次量取测试剂 10ml 继续加入锥形瓶中，直到被检测样变粉红色停止滴定。

所耗去的测试剂总毫升数即为被检测样的千分数，如耗去 18.2ml 测试剂，即说明该测样的浓度为 1.82‰；

Detection method

1. Use 10ml pipette to extract 5ml of the sample to be tested and put it into the conical flask;
2. Take 5 drops of chromogenic agent (about 1ml) from the red head dropper and add it to the conical flask;

3. Use another pipette to take 10ml of the test agent and slowly drop it into the conical flask (titration while shaking the conical flask to observe the color change);
4. When the liquid color changes from light yellow to pink, that is the end point. Stop titration and record the calibration of the consumed test agent on the pipette;
5. When 10ml of test agent is consumed, the concentration of the tested sample is 1‰; If the consumption of test agent 5ml; The concentration is 0.5‰. The consumption of 1ml of the test agent is 0.1‰, and so on.

If 10ml of the test agent is consumed and the tested sample still does not turn pink, then measure 10ml of the test agent again and continue to add to the conical flask until the tested sample turns pink and titration stops.

The total number of milliliters of test agent consumed is the thousandth fraction of the tested sample. If 18.2ml of test agent is consumed, the concentration of the tested sample is 1.82‰.

Other matters

1. Use special gold coconut shell charcoal adsorption or zinc powder, zinc wire replacement
2. The best effect is achieved when the temperature is above 10°C
3. The gold immersion rate is slow at the early stage and fast at the middle stage. It is suggested to test the grade and concentration of precious liquid regularly and maintain a stable Ph value
4. Hydrogen peroxide, potassium permanganate and other strong oxidants can be pretreatment, not at the same time
5. The use of ammonia, sodium sulfide, potassium ferricyanide, lead nitrate, sodium hypochlorite and other auxiliary agents in the pretreatment of complex mines, the leaching of Sinogold potion does not affect
6. A small amount of black residue will not affect the leaching effect
7. Sinogold potion can be used together with sodium cyanide



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8. The reagent used should be stored in dark (brown) reagent bottle in a cool and dark place during transportation, storage and use