CLAIMS

1. A neutralization processing system for an ammonia-containing waste fluid, the neutralization processing system separating a waste fluid containing at least sludge and ammonia water from lubricating oil after use in a ship diesel engine to neutralize the waste fluid, the neutralization processing system comprising:

a purifier configured to purify the lubricating oil;

a sludge tank;

a sludge discharge line configured to supply the waste fluid separated from the lubricating oil by the purifier to the sludge tank;

a neutralizer supply line configured to supply a neutralizer to the sludge tank;

a sensor configured to measure pH of the waste fluid or an ammonia concentration of the waste fluid; and

a light fluid discharge line configured to return the lubricating oil purified by the purifier to a lubricating oil tank configured to store the lubricating oil.

2. A neutralization processing system for an ammonia-containing waste fluid, the neutralization processing system separating a waste fluid containing at least sludge and ammonia water from lubricating oil after use in a ship diesel engine to neutralize the waste fluid, the neutralization processing system comprising:

a purifier configured to purify the lubricating oil;

a waste fluid tank;

a sludge discharge line configured to supply the waste fluid separated from the lubricating oil by the purifier to the waste fluid tank;

a sludge tank configured to store the waste fluid from the waste fluid tank;

a waste fluid discharge line configured to supply the waste fluid in the waste fluid tank to the sludge tank;

a neutralizer supply line configured to supply a neutralizer to the waste fluid tank; and

a sensor configured to measure pH of the waste fluid or an ammonia concentration of the waste fluid in the waste fluid tank.

3. The neutralization processing system according to claim 2, wherein the purifier is connected to a light fluid discharge line configured to return the lubricating oil purified by the purifier to a lubricating oil tank configured to store the lubricating oil.

4. A neutralization processing system for an ammonia-containing waste fluid, the neutralization processing system separating sludge and ammonia water from lubricating oil after use in a ship diesel engine to neutralize a waste fluid containing at least sludge and ammonia water, the neutralization processing system comprising:

a purifier configured to purify the lubricating oil;

a waste fluid tank;

a sludge discharge line configured to supply the sludge separated from the lubricating oil by the purifier to the waste fluid tank;

a heavy fluid discharge line configured to supply the ammonia water separated from the lubricating oil by the purifier to the waste fluid tank;

a neutralizer supply line configured to supply a neutralizer to the waste fluid tank;

a sensor configured to measure pH of the waste fluid or an ammonia concentration of the waste fluid in the waste fluid tank; and

a sludge tank configured to store the waste fluid from the waste fluid tank.

5. The neutralization processing system according to claim 4, wherein the purifier is connected to a light fluid discharge line configured to return the lubricating oil purified by the purifier to a lubricating oil tank configured to store the lubricating oil.

6. A neutralization processing system for an ammonia-containing waste fluid, the neutralization processing system separating sludge and ammonia water from lubricating oil after use in a ship diesel engine to neutralize a waste fluid containing at least sludge and ammonia water, the neutralization processing system comprising:

a purifier configured to purify the lubricating oil;

a sludge tank;

a sludge discharge line configured to supply the sludge separated from the lubricating oil by the purifier to the sludge tank;

a heavy fluid discharge line configured to supply the ammonia water separated from the lubricating oil by the purifier to the sludge tank;

a neutralizer supply line configured to supply a neutralizer to the sludge tank;

a sensor configured to measure pH of the waste fluid or an ammonia concentration of the waste fluid in the sludge tank; and

a light fluid discharge line configured to return the lubricating oil purified by the purifier to a lubricating oil tank configured to store the lubricating oil.

7. The neutralization processing system for an ammonia-containing waste fluid according to any one of claims 1 to 6, wherein

the neutralizer has an acidic component.

8. The neutralization processing system for an ammonia-containing waste fluid according to any one of claims 1 to 6, wherein

the neutralizer contains citric acid.

9. The neutralization processing system for an ammonia-containing waste fluid according to claim 1 or claim 6, further comprising:

an additive for detoxification supply line configured to supply iron oxide to the sludge tank.

10. The neutralization processing system for an ammonia-containing waste fluid according to any one of claims 2 to 5, further comprising:

an additive for detoxification supply line configured to supply iron oxide to the waste fluid tank, wherein

the neutralizer contains citric acid.

11. The neutralization processing system for an ammonia-containing waste fluid according to any one of claims 1 to 6, wherein

the sludge tank is provided with a device for stirring the waste fluid.

12. The neutralization processing system for an ammonia-containing waste fluid according to any one of claims 2 to 5, wherein

the waste fluid tank is provided with a device for stirring the waste fluid.

13. The neutralization processing system for an ammonia-containing waste fluid according to any one of claims 1 to 6, wherein

the sludge tank is provided with an input water supply line for supplying water to the sludge tank.

14. The neutralization processing system for an ammonia-containing waste fluid according to any one of claims 2 to 5, wherein

the waste fluid tank is provided with an input water supply line for supplying water to the waste fluid tank.

15. The neutralization processing system for an ammonia-containing waste fluid according to any one of claims 2 to 5, further comprising:

a liquid level measuring instrument provided with the waste fluid tank, the liquid level measuring instrument being configured to measure an amount of a neutralized waste fluid stored in the waste fluid tank; and

a waste fluid transfer pump configured to transfer the waste fluid in the waste fluid tank to the sludge tank, wherein a discharge rate of the waste fluid transfer pump is controlled in accordance with the amount of the neutralized waste fluid measured by the liquid level measuring instrument.

16. A neutralization processing method for an ammonia-containing waste fluid, the neutralization processing method separating a waste fluid containing at least sludge and ammonia water from lubricating oil after use in a ship diesel engine to neutralize the waste fluid, the neutralization processing method comprising:

purifying the lubricating oil by a purifier;

supplying the sludge separated from the lubricating oil, by the purifier, to a waste fluid tank by a sludge discharge line;

measuring pH or an ammonia concentration of the waste fluid in the waste fluid tank by a sensor; and

neutralizing the waste fluid by adding a neutralizer to the waste fluid in accordance with either or both of a measured value of the pH of the waste fluid and a measured value of the ammonia concentration of the waste fluid measured by the sensor; and

returning the lubricating oil purified by the purifier to a lubricating oil tank configured to store the lubricating oil via a light fluid discharge line.