Chemistry should be divided into 5 parts:  
**I. Ghetto.**   
Should be able to be mixed with maints industrial dispensers (about them later) and chemicals than can be extracted from wildlife (roaches, spiders, carps, shrooms etc).  
**II. Base Chemistry**  
Just stuff from regular chem dispenser, nothing fancy here.   
**III. Advanced Chemistry**  
Stuff from chem dispenser + consumables (something from botany, something from wildlife, maybe something from derelicts).  
**IV. “Artifact” Chemistry**  
Not craftable and rare, can be found on derelicts  
**V. Nanobots**

Unique and rare chems, which consume patient’s blood slowly. Have no other drawbacks at all.

**Part I: General Chemistry**

1. ***Temperature aspect***

For easier recipe implementation of recipes, temperature system should be added.

Right now, code part should be finished, UI added (temperature bar and number-based indicator, target temperature setting, window of beaker contents and eject button) and sprite is required for temperature control machinery.

* Ghetto ways of temperature control is a must:  
  Heating containers using lighter and cooling chemicals via some kind of rapidly cooling chem.
* Temperature system should be also introduced into some high-tier old recipes, so it wouldn’t be only for new ones. ( See graph in appendix )

1. **New chems & ways to acquire them**

New ghetto special ways to acquire chemicals should be added:  
Electrolyzer

The electrolyzer may be loaded with up to two beakers: one must be empty, and the other must contain exactly one reagent ("active beaker").

When you click the electrolyzer with any power cell, it will attempt to convert the reagent in the active beaker into its chemical components, based on standard recipes. Catalysts are never necessary nor produced. 30 charge is necessary per unit converted. The first component of the reaction is put into the first beaker, the remainder are dumped into the second beaker.

*Example 1:* 10u of Dexalin is converted using a potato battery (300 charge). It produces 20 Oxygen and completely drains the battery.

## Centrifuge (handheld?)

The centrifuge can hold any number of empty, open containers, but only one active container, which can contain many reagents. When the flush verb is used, the Centrifuge attempts to kick out containers filled with one reagent from the active container each. If there aren't enough empty containers, the remainder of the chemical mix is lost.

*Example 1:* You take your above mix of Nitrogen and Potassium beaker to the Centrifuge and insert it, then you drink the soda out of two cans and insert those. You start the centrifuge, and it produces two soda cans. One contains 10u Nitrogen, the other contains 10u Potassium.

## Mortar

This functions like an all-in-one grinder, with several drawbacks. There's a reagent limit of 1, so items need to be crushed one after another instead of putting in many at once. It also prioritizes juicing over grinding with no choice otherwise, meaning berries will always produce juice instead of nutrient. Additionally, it can't be upgraded, and because it is its own container, you can't add a larger beaker to contain more at once. The perk is that it is mobile and will work during a power outage. It also has the ability to grind some things that won't pass the "Will it blend?" test -- wires for copper, flares for sulfur, butts for mercury, and cells for lithium.

*Example 1:* Berries are added to the mortar. Crushing them results in berry juice.

*Example 2:* Solid plasma is added to the mortar. Crushing it results in plasma.

Also as a new, easier method of acquiring and manipulating chemicals outside lab, industrial dispensers should be added. New reagents, can be obtained by butchering mobs, from mushrooms, etc. Should be used for new recipes.

* Industrial dispensers will act like usual chem dispenser. However they should lack chemicals - they all will be stored in chem tanks. There should be 8 - 10 slots for chem tanks, all with their own capacity indicators.
* Tanks contain single random reagent for ghetto chemistry. They act like beakers, accessible only via Industrial dispenser, without direct access to chems. Tanks will Industrial dispensers and their parts should be added to maints. Circuitry for industrial dispensers should be way more common to find than usual chem dispenser. ChemMaster 3000 board should be rare as well.
* Maint loot should contain beakers with random chemicals from usual chem dispenser and chem tanks containing one random chem in one tank.

1. **Addiction, Withdrawal, OverDose (OD) and Nerve system accumulations (NSA) systems**

**Addiction & Withdrawal**

Every drug should have chance to cause addiction on use. Risk of addiction should be multiplied with each following usage:

Base addiction % +( NSA/3)%

Withdrawal effects occur after becoming addicted and going for some amount of time without using that chem. Withdrawal effects may be individual for different drugs. Withdrawal should produce messages periodically: "You feel a burning desire for CHEMNAME” ( or something like this).

**OverDose**

Every drug and other substances should have certain, individual threshold for maximum number of chems in bloodstream. Every drug should have it’s own OD effects.

**Nerve system accumulations (NSA)**

In addition to standard addiction, drugs and other substances should have an additional tracker value. As long as chem in bloodstream, human have that value.

There will be 100 point limit for triggering nerve damage. Crossing stat limit will result (but not limited to) various hallucinations and partial loss of control - uncontrolled moves, twitching etc. (everything that makes player life harder than darksouls)

New system-specific meds should be added:

* Detox - will boost value of NSA randomly.
* Purger - Temporary purges all addictions.
* Addictol - purges all addictions.
* Aminazine - will opress withdrawal effects for some time.
* Haloperidol - will purge chems from bloodstream, lower NSA and sedate patient. An overdose of haloperidol can be fatal.

***Part II: Nanobots***

Nanobots will provide of major buffs when injected.

Unlike TG nanobots, Eris nanobots should be a reagent. In “cold” state they react with various chemicals and get their function in that way. Heating them up to 451C resets their program and allows reuse of base type nanobots for different purposes.

General ideas of nanites:

1. They deplete with time + *blood loss will drain them as well;*
2. They act like chems with virtually no drawbacks and better capabilities;
3. Nanobots are consumed like any other reagent in the human body.
4. Nanobots consume 1u of blood for each 20 seconds in bloodstream - Values are not final

There should be two types of nanobots - biological and mechanical:

1. Biological is for making various stimulants, poisons, etc;
2. Mechanical is for repairing machinery (aka nanopaste). Consuming mechanical nanopaste should damage humans, while biological should be neutral-ish.

Both types can be produced by RnD department from consumables, with precursor material producible\harwestible with some efforts. Opinion to buy ready to use raw nanites from cargo is a main way to acquire reliable source of precursors. Nanopaste can be also found by butchering cyberroaches, in special organs.

There will be 2 types of precursors:

* Raw Industrial Nanobots - Marvel of long forgotten science, produced by the last nanoforge in outer terminus. Hardwired security measures limits their applications. (Easily accessible from cargo, still pricey + obtainable from rare cyberroaches)
* Raw Uncapped Nanobots - relic of a bygone era, with unmatched capabilities for beneficial or harming applications. (Rare loot only + ?traitor uplink?)

*When necessary nanites could be destroyed with a burst of high-level radiation or damaged with EMI. (with a chance to transform part of nanobots to uncapped?)*

**Common nanobots:**

* Arad Nanobots - purge system of radiation.

Effect:

- 50 rads/second

Recipe:

Raw Industrial Nanobots + Arithrazine

* Implant Medics - will heal implants and augs slowly

Effect:

- 2 damage/second

Recipe:

Raw Industrial Nanobots + Aluminum

* Nantidotes - will purge chemicals from bloodstream

Effect:

-5u/s of any chemical except nanobots itself

Recipe:

Raw Industrial Nanobots + Ethylredoxrazine

* Nanosymbiotes - will heal patient slowly

Effect:

-1 Damage/s for every type.

Recipe:

Raw Industrial Nanobots + Peridaxon

* Oxyrush - keep oxygen level at 75% - Say yes to spacewalking without space suit

Effect:

keep oxygen level at 75%

Recipe:

Raw Industrial Nanobots + Dexalin Plus

* Trauma Control System - repair damaged organs

Effect:

-2 Damage/s for all organs simultaneously

Recipe:

Raw Industrial Nanobots + Bicardine

* Purgers - destroy other nanites

Effect:

- 1u/s for any other nanites

Recipe:

Raw Industrial Nanobots + Synaptizine

**Uncapped nanobots:**

* Control Booster Utility - will boost skill while present

Effect:

MECH ++ COG++ BIO ++  
Recipe:

Raw Nanobots + Party drops

* Control Booster Combat - will boost skill while present

Effect:

ROB ++ TOUG++ VIG ++  
Recipe:

Raw Nanobots + Menace

* Dynamic Handprints - change persons fingerprints

Effect:

Change fingerprints to random  
Recipe:

Raw Nanobots + Rezadone

* Voice mimic - mimics voice

Effect:

Change voice to Unknown  
Recipe:

Raw Nanobots + Cryptobiolin

**Part III: Drugs and Stimulants**

Stimulants should affect stats. *Stimulants should give boosts to these stats for a cost of drawbacks.* Stimulant will affect player only if currently present in bloodstream.(Status effects for reference available in Appendix 1).

*Each changing of stat should be accompanied with appropriate message taken randomly from pool of messages.*

Stats should be like:  
  
**Combat**  
*Robust* - Speaks for itself. Health, melee damage, chance of knockdown in melee combat.  
*Toughness* - Negative effects resistance, lower armour/voidsuit encumbrance   
*Vigilance* - Dexterity, sanity, shooting

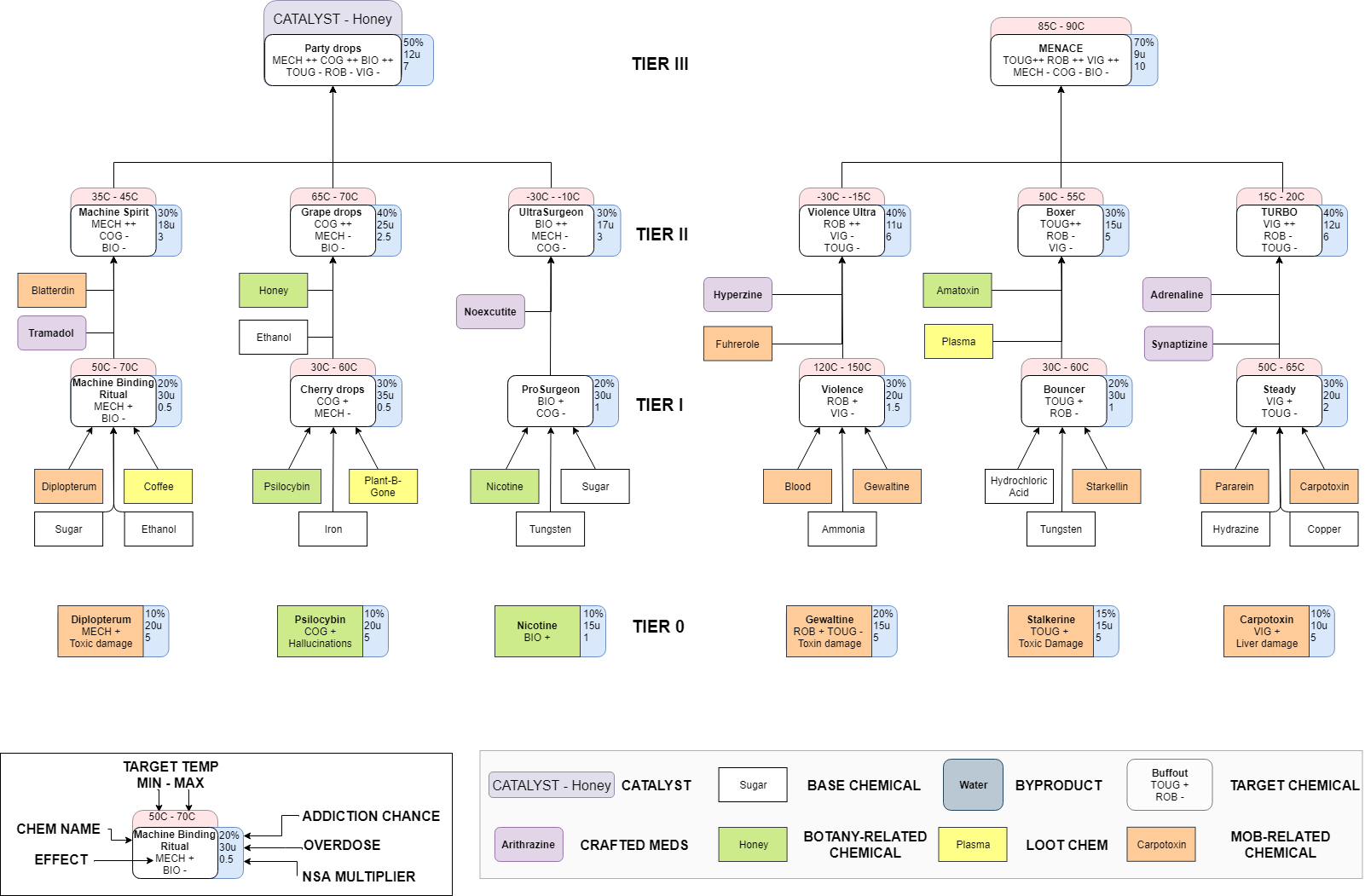
**Utility**  
*Mechanical* - Machinery, construction, engineering.   
*Cognitive* - Crafting

*Biological* - First aid, surgery, overall medical skills.

Stimulant list:

First tier - gives + to all stats in a group, -half of this bonus in the other one, rounded up (For example, gives +15 to Mechanics, Cognition and Biology, but -8 to Robustness, Toughness and Vigilance).

Second teir - gives + to stat, gives -half of this bonus to stats in the same group, rounded up (for example - gives +10 to Vigilance, but -5 in Robustness and Toughness).   
  
Third tier - gives + to stat, gives the same - to “stat to the right”. Should be like that:  
Mechanics->Biology->Cognition->Mechanics->Biology->...  
Robustness->Vigilance->Toughness->Robustness->Vigi



*Pic.1 Stimulants tree*

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**Stimulants:**

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* **Machine binding ritual**

Effect:

MECH + BIO -

Addiction formula:

20 % + (NSA/3)%

Withdrawal effects:

MECH - TOUG - ;

OD threshold:

30u

OD effects:

Vomiting, Liver damage;

NSA value:

15

* **Cherry drops**

Effect:

COG + MECH -

Addiction formula:

30 % + (NSA/3)%

Withdrawal effects:

Headache, MECH - COG - TOUG - ;

OD threshold:

35u

OD effects:

Stuttering, Light brain damage;

NSA value:

20

* **ProSurgeon**

Effect:

BIO + COG -

Addiction formula:

20 % + (NSA/3)%

Withdrawal effects:

BIO - COG - VIG - ;

OD threshold:

30u

OD effects:

Drop items randomly; Toxic damage;

NSA value:

20

* **Violence**

Effect:

ROB + VIG - , Loudness; Increased heart rate;

Addiction formula:

30 % + (NSA/3)%

Withdrawal effects:

ROB - VIG - ;

OD threshold:

20u

OD effects:

Jitteriness, Confusion; clone damage;

NSA value:

30

* **Bouncer**

Effect:

TOUG + ROB -

Addiction formula:

20 % + (NSA/3)%

Withdrawal effects:

TOUG - ROB - ;

OD threshold:

30u

OD effects:

Stun, Raised body temperature;

NSA value:

10

* **Steady**

Effect:

VIG + TOUG -

Addiction formula:

30 % + (NSA/3)%

Withdrawal effects:

Shaking; VIG - TOUG - ;

OD threshold:

20u

OD effects:

Minor slowdown, Heart damage;

NSA value:

20

* **Machine Spirit**

Effect:

MECH ++ BIO - COG -

Addiction formula:

30 % + (NSA/3)%

Withdrawal effects:

MECH - BIO - COG - ;

OD threshold:

18u

OD effects:

Vomiting, Severe liver damage;

NSA value:

30

* **Grape drops**

Effect:

COG ++ MECH - BIO -

Addiction formula:

40 % + (NSA/3)%

Withdrawal effects:

Headache, MECH - COG - TOUG - ;

OD threshold:

25u

OD effects:

Slurred speech, Medium brain damage.

NSA value:

30

* **UltraSurgeon**

Effect:

BIO ++ MECH - COG -

Addiction formula:

30 % + (NSA/3)%

Withdrawal effects:

Shaking; BIO - MECH - TOUG - ;

OD threshold:

17u

OD effects:

Drop items randomly; Severe toxic damage;

NSA value:

30

* **Violence Ultra**

Effect:

ROB ++ VIG - TOUG -

Addiction formula:

40 % + (NSA/3)%

Withdrawal effects:

Shaking; Drains nutrition; ROB - TOUG - VIG - ;

OD threshold:

11u

OD effects:

Jitteriness, Confusion; Severe clone damage;

NSA value:

60

* **Boxer**

Effect:

YOUG ++ ROB - VIG -

Addiction formula:

30 % + (NSA/3)%

Withdrawal effects:

MECH - TOUG - ;

OD threshold:

15u

OD effects:

Stun; Raised body temperature;

NSA value:

50

* **TURBO**

Effect:

VIG ++ ROB - TOUG -

Addiction formula:

40 % + (NSA/3)%

Withdrawal effects:

Shaking; MECH - TOUG - ;

OD threshold:

12u

OD effects:

Minor slowdown, chance to paralyze, Heart damage;

NSA value:

60

* **Party drops**

Effect:

MECH ++ BIO ++ COG++ ROB - TOUG - VIG -

Addiction formula:

50 % + (NSA/3)%

Withdrawal effects:

MECH - COG - BIO - ;

OD threshold:

12u

OD effects:

Vomiting, Slurred speech, Medium brain damage;

NSA value:

70

* **MENACE**

Effect:

ROB ++ TOUG ++ VIG ++ MECH - BIO - COG - Loudness, Sluterring

Addiction formula:

70 % + (NSA/3)%

Withdrawal effects:

ROB - - TOUG - - VIG - - Drains nutrition;

OD threshold:

9u

OD effects:

Inability to speak properly, Paralysis;

NSA value:

90

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**Meds:**

Only NSA value added

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* **Oxycodone**

OD threshold:

20u

OD effects:

No changes

Causes slurring, slowed movement, and falling in higher doses.

NSA value:

60

* **Synaptizine**

OD threshold:

5u

OD effects:

No changes

NSA value:

50

* **Tramadol**

*Effect should be changed from 80 to 130*

*M.add\_chemical\_effect(CE\_PAINKILLER, 130)*

OD threshold:

30u

OD effects:

No changes

*Opioid; causes slurring, slowed movement, and falling in higher doses.*

NSA value:

40

* **Hyperzine**

OD threshold:

20u

OD effects:

No changes

NSA value:

70

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**Drugs:**

*Both NSA and additional effects*

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* ***Sanguinum***

Bicardine + Spaceacillin + Mercury

Effect:

Blood regen - 1,5 u / 20 seconds - ***POSSIBLE SUBJECT TO CHANGE***

will regenerate blood from nutrients, side effect - blood coughing;

Addiction formula:

30 % + (NSA/3)%

Withdrawal effects:

ROB - TOUG - COG -

OD threshold:

15u

OD effects:

Internal Bleeding

NSA value:

80

* **Space Drugs**

NSA value:

100

* **Nicotine**

Effect:

BIO +

Addiction formula:

10 % + (NSA/3)%

Withdrawal effects:

BIO -

OD threshold:

15u

OD effects:

Vomiting; Headache; Toxic Damage

NSA value:

10

* **Psilocybin**

Effect:

COG + Hallucinations

Addiction formula:

10 % + (NSA/3)%

Withdrawal effects:

COG -

OD threshold:

20u

OD effects:

NSA value:

40

* **Amanita Toxin**

Effect:

Addiction formula:

20 % + (NSA/3)%

Withdrawal effects:

OD threshold:

20u

OD effects:

NSA value:

60

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**Mob-related reagents**:  
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* *Sleep-toxin*: Should be acquirable from “nurse” spiders.
* *Pararein*: Poison, deals toxin damage. Probably should be used by spiders themselves.

Effect:

ROB - VIG -

* *Aranecolmin*: Weak anti-toxin, speeds up spider poison metabolism. Obtained from “warrior” spiders.
* *Carpotoxin*: Obtainable from carps;

Effect:

VIG + Liver damage;

Addiction formula:

10 % + (NSA/3)%

Withdrawal effects:

VIG - ROB - TOUG -

OD threshold:

10u

OD effects:

Toxin damage; Brain damage;

NSA value:

5

* ***Diplopterum****:* Harvestable from usual roaches.

Effect:

MECH + Toxin damage;

Addiction formula:

10 % + (NSA/3)%

Withdrawal effects:

MECH - TOUG -

OD threshold:

20u

OD effects:

Toxin damage; Liver damage;

NSA value:

5

* ***Seligitillin***: Obtainable from Seuche roaches.

Effect:

Heals brute damage (weaker than Bicardine) and quickly stops blood loss (including internal).

Addiction formula:

10 % + (NSA/3)%

Withdrawal effects:

TOUG - -

OD threshold:

15u

OD effects:

Heart damage; Liver damage; ?*Blood coughing?*

NSA value:

4

* ***Starkellin***:Obtained from Panzer roaches.

Effect:

TOUG + Toxin damage

Addiction formula:

15 % + (NSA/3)%

Withdrawal effects:

TOUG - ROB -

OD threshold:

15u

OD effects:

Burn damage Toxin damage

NSA value:

5

* ***Fuhrerole***: Obtained from Fuhrer roaches in small amounts.

Effect:

Roaches ignore you while you are under effect of this. Faction == roach

Addiction formula:

30 % + (NSA/3)%

Withdrawal effects:

ROB - TOUG -

OD threshold:

8u

OD effects:

Loudness; Brain damage;

NSA value:

4

* ***Gewaltine***: Obtained from Jager roaches.

Effect:

ROB + TOUG - Toxin damage

Addiction formula:

20 % + (NSA/3)%

Withdrawal effects:

ROB - - VIG -

OD threshold:

15u

OD effects:

Clone damage

NSA value:

5

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**Non-stat chems:**

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* *Vomitol* - forces you to vomit for some time - results in total cleaning of patient's stomach

Carbon + Sugar + Acetone

* *Kyphotorin* - will allow patient to grow back limbs, yet by sacrificing lots of blood and nutrients, also deals random damage to body parts, extremely painful and needs constant medical attention when applied;

Peridaxon + Unstable Mutagen + Clonexadone

OD threshold:

20u

OD effects:

Massive clone damage

* *Cavasin* - will make you feel full, thus negating need for food for some time;

Carbon + Tungsten + Nicotine

* *Arectine* - makes user emit light

Ethanol + Dylovene + Welder Fuel

OD threshold:

25u

OD effects:

lights user on fire on overdose

* *Quickclot* - temporarily stops\oppresses any internal and internal bleeding

Ketolane 5u + Clonexadone 5u + Plasma 1u *Catalyst*

OD threshold:

15u

OD effects:

brute, burn and toxin damage.

* *Ossisine* - paralyses user and restores broken bones

Soporific + Clonexadone + Bicardine

OD threshold:

15u

OD effects:

Clone damage

**Misc chemicals:**

* *InstantIce* - Will cool reagents inside container when mixed with water to -50C.

Hydrazine + Acetone + Salt

**Status Effects:**

1. **Knockdown**

When knocked down the victim will drop items in hand, but will be able to crawl, pick up items and fight from the ground.

1. **Paralyze**

A paralyzed victim will fall down and be unable to act in any way, but can still talk.

1. **Stun**

A Stunned victim will not be able to move or perform actions of any sort, but will remain upright and will still be able to speak. Pure stuns are very rare, with Paralyze being mechanically identical and far more common.

1. **Unconsciousness**

An Unconscious victim will have the same effects of Knockdown, plus the inability to see, hear or speak.

1. **Confusion**

A Confused victim will sometimes take a step in a random direction.

1. **Dizziness**

A Dizzy victim's screen will keep tilting until the effect runs out.

1. **Drowsiness**

Blurs your vision and makes you randomly fall asleep. Used to slow you down as well but that's bugged.

1. **Jitteriness**

A jittering person's sprite will shake slightly.

1. **Slutering**

Makes you stutter when trying to speak.