

# Metalworking Fluids by Score alternatives list

**Warning:** Businesses are ultimately responsible for the proper designation and disposal of the waste they generate. Improper use of this document (using it without understanding its underlying assumptions and limitations) does not change your disposal responsibilities. Do not use it until you understand it.

Want help or an explanation on using the list? Contact Rolfe Parsloe, [rpar461@ecy.wa.gov](mailto:rpar461@ecy.wa.gov).

## Understanding disposal status

Businesses must know the **disposal status of their spent metal working fluid (MWF)** to properly manage and dispose of it. The alternatives list shows the **unused product disposal status**. What is the difference between the two?

- Spent MWF has been used to depletion.
- Unused product is fresh out of the drum (diluted if water based).

Knowing the unused product disposal status can help you pick an alternative MWF by screening out ones that will need to become part of a tolling arrangement or have a hazardous waste determination made on them and identifying ones that can be managed as used oil **provided that you follow certain best management practices**. Businesses are ultimately responsible for proper designation and disposal of spent MWF because only they control what actually happens at their business.

The Washington State Department of Ecology worked with MWF manufacturers to identify the chemicals and properties of their product MWFs. We used the information to determine the disposal status of the MWFs as unused product. **Sometimes** the disposal status of an unused product is the same as the disposal status of the spent MWF.

The disposal status of an unused product MWF and the disposal status of a spent MWF **are the same** if:

- The disposal status of unused product is “used oil.” Then the disposal status of the spent MWF will be “used oil” as long as chlorinated tapping fluids are not used and spent MWF is not mixed with anything except other used oil.

The unused product MWF disposal status and spent MWF disposal status **are not the same** if:

- The unused product disposal status is “not used oil” (it contains a vegetable or animal oil). Spent MWFs that have been used in shop that have an unused product disposal status of “not used oil” must have a hazardous waste determination made on it in accordance with 40 CFR 262 and all other local State requirements that may be more stringent than 40 CFR. Consult with your local hazardous waste compliance officer. “Not used oil” MWFs could end up being hazardous waste depending on the contaminants they pick up on the way to becoming spent (Pb, Cd, Cr, etc.).
- The unused product disposal status is “Tolling or Rebut” (it contains chlorinated alkanes or chlorinated paraffins). Such MWFs that have become spent after machining must be

recycled and returned to the shop in a tolling arrangement (40CFR279.24(c)) or have a hazardous waste determination (40 CFR 279.44) made on it in and comply with all other local State requirements that may be more stringent than 40 CFR (such as in WA State).

## How to use the alternatives list

What does all this mean to you? How should you use the Metalworking Fluids by Score alternatives list to find a non hazardous waste MWF?

**Pick a MWF as high up the list as you can that has an unused product disposal status of “used oil”. Do not use chlorinated tapping fluids. Do not mix spent MWF with anything except other used oil. If you do what is in red you will not make hazardous waste MWF.**

The fluids higher up the list means they contain fewer toxic substances for your workers to breathe and touch. We recommend you pick one with the lowest weight percentage of unknown toxic substances because unknowns may be toxic.

**If you pick an MWF that is “not used oil,” when it becomes spent from machining make a hazardous waste determination on it (test it) in accordance with 40 CFR 262 and all other local State requirements.** Consult your local haz waste compliance officer.

**If you pick a MWF that is “Tolling or Rebut” it is formulated with chlorinated alkanes or paraffins. When it is spent from machining have it recycled and returned to the machine shop for reuse in a tolling arrangement or rebut the presumption that it has been mixed with hazardous waste (test it) if required to do so by your local hazardous waste compliance officer.**

## Metalworking Fluids by Score

Last updated March 5, 2021.

Table 1: Water-based metalworking fluids found in Washington state.<sup>1</sup>

| Metalworking Fluid Name      | Unused Product Disposal Status | Water Dilution | % Toxic Substances | % Unknown Substances | % Preferred Substances |
|------------------------------|--------------------------------|----------------|--------------------|----------------------|------------------------|
| Blaser Synergy 735           | Not used oil                   | y 20:1         | 0                  | 0.6                  | 99.4                   |
| Goodson SGC-10 (SDS: FG-550) | Used oil                       | y 20:1         | 0                  | 1.3                  | 98.7                   |
| Blaser Blasocut 4000 STRONG  | Tolling or rebut               | y 20:1         | 0                  | 1.5                  | 98.5                   |
| Blaser Vasco 7000            | Not used oil                   | y 20:1         | 0                  | 2.0                  | 98.0                   |
| Qualichem Xtreme Cut 250C    | Used oil                       | y 20:1         | 0                  | 2.3                  | 97.7                   |
| Blaser Blasocut 935 SW       | Not used oil                   | y 20:1         | 0                  | 3.2                  | 96.8                   |

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<sup>1</sup> Sorted by percent toxic substances reported by manufacturer as being in product as used.

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| <b>Metalworking Fluid Name</b>    | <b>Unused Product Disposal Status</b> | <b>Water Dilution</b> | <b>% Toxic Substances</b> | <b>% Unknown Substances</b> | <b>% Preferred Substances</b> |
|-----------------------------------|---------------------------------------|-----------------------|---------------------------|-----------------------------|-------------------------------|
| Qualichem Q-Cool 355D             | Used oil                              | y 20:1                | 0                         | 3.2                         | 96.8                          |
| Buckeye Lubricants #324-24NC      | Used oil                              | y 20:1                | 0                         | 5.0                         | 95.0                          |
| Hangsterfers-500CF German MWF     | Not used oil                          | y 20:1                | 0                         | 5.0                         | 95.0                          |
| Hangsterfers Semi Synthetic S-787 | Not used oil                          | y 20:1                | 0                         | 5.0                         | 95.0                          |
| Fuchs Ecocool S 761 B             | Used oil                              | y 20:1                | 0                         | 5.0                         | 95.0                          |
| Syntillo 9918                     | Tolling or rebut                      | y 20:1                | 0.02                      | 4.68                        | 95.3                          |
| Blaser Blasocut 2000 CF SW        | Not used oil                          | y 20:1                | 0.03                      | 0.97                        | 99.0                          |
| Blaser Blasocut BC 35 NF          | Not used oil                          | y 20:1                | 0.05                      | 0.95                        | 98.99                         |
| Blaser Blasocut BC 35 SW          | Not used oil                          | y 20:1                | 0.05                      | 0.95                        | 99.0                          |
| Castrol Carecut S 130             | Not yet determined                    | y 20:1                | 0.05                      | 4.05                        | 95.9                          |
| Chevron Soluble B OIL             | Used oil                              | y 20:1                | 0.07                      | 4.73                        | 95.2                          |
| Qualichem Xtreme Cut 290          | Used oil                              | y 20:1                | 0.15                      | 2.85                        | 97.0                          |
| Qualichem EQO PURE 450            | Not used oil                          | y 20:1                | 0.15                      | 4.35                        | 95.5                          |
| Syntillo AL 30                    | Not used oil                          | y 20:1                | 0.15                      | 4.55                        | 95.3                          |
| Castrol 311 Synkool SS            | Used oil                              | y 20:1                | 0.18                      | 4.82                        | 95.0                          |
| Cimstar Qualstar LF Pink          | Used oil                              | y 15:1                | 0.27                      | 5.33                        | 94.4                          |
| Lenox Band Ade                    | Not used oil                          | y 10:1                | 0.5                       | 7.5                         | 92.0                          |
| Schaeffers Maxkool 411 SS         | Not used oil                          | y 20:1                | 0.58                      | 3.02                        | 96.4                          |
| Rustlick WS 5050                  | Tolling or rebut                      | y 10:1                | 1.0                       | 2.4                         | 96.6                          |
| Techcool 35052                    | Tolling or rebut                      | y 20:1                | 1.3                       | 3.7                         | 95.0                          |
| Xtreme Cut 291VLC                 | Tolling or rebut                      | y 20:1                | 1.5                       | 3.3                         | 95.2                          |
| Hocut 795 B                       | Used oil                              | y 20:1                | 1.7                       | 3                           | 95.3                          |
| Cimcool Cimperial 1070B Blue      | Tolling or rebut                      | y 20:1                | 1.7                       | 0.6                         | 97.7                          |
| Trimmicrosol585XT                 | Used oil                              | y 15:1                | 2.33                      | 4.7                         | 93.0                          |
| SemiSpar HD                       | Tolling or rebut                      | y 10:1                | 3.3                       | 2.3                         | 94.4                          |

| <b>Metalworking Fluid Name</b> | <b>Unused Product Disposal Status</b> | <b>Water Dilution</b> | <b>% Toxic Substances</b> | <b>% Unknown Substances</b> | <b>% Preferred Substances</b> |
|--------------------------------|---------------------------------------|-----------------------|---------------------------|-----------------------------|-------------------------------|
| Far West soluble Oil 2500      | Tolling or rebut                      | y 15:1                | 4.3                       | 3.2                         | 92.5                          |
| Rustlick WS 1000               | Tolling or rebut                      | y 10:1                | ?*                        | 10.0                        | 90.0                          |

Mix 1 gallon of concentrate metalworking fluid (MWF) with 19 gallons of water. Make 20 gallons ready to use MWF (20:1, 5% concentrate, 95% water). Dilutions used per manufacturer SDS (midrange use or many machining applications). 15:1 yields 92.5 % water.

Table 2: Straight oils and synthetics not mixed with water.

| <b>Metalworking Fluid Name</b>   | <b>Unused Product Disposal status</b> | <b>% Toxic Substances</b> | <b>% Unknown Substances</b> | <b>% Preferred Substances</b> |
|----------------------------------|---------------------------------------|---------------------------|-----------------------------|-------------------------------|
| Blaser Blasogrind GTC7           | Not used oil                          | 0                         | 2.0                         | 98.0                          |
| Blaser Vascomill 10              | Not used oil                          | 0                         | 3.0                         | 97.0                          |
| Blaser Vascomill 22              | Not used oil                          | 0                         | 4.0                         | 96.0                          |
| Blaser Blasomill TLB             | Not used oil                          | 0                         | 5.0                         | 95.0                          |
| Blaser Blasogrind HC 5           | Not used oil                          | 0                         | 8.0                         | 92.0                          |
| Goodson Man845                   | Tolling or rebut                      | 0                         | 5.0                         | 95.0                          |
| Qualichem EQO-Max 712 MM         | Not used oil                          | 0                         | 30.3                        | 69.7                          |
| Qualichem EQO-Max 716            | Not used oil                          | 0                         | 50.0                        | 50.0                          |
| Hangsterfers Missile Lube        | Not used oil                          | 0                         | 100.0                       | 0                             |
| Goodson VG010 valve grinding oil | Used oil                              | 0                         | 100.0                       | ?                             |
| EQO-Max 716                      | Not used oil                          | 0                         | 50.0                        | 50.0                          |
| Blaser Blasomill GT 22           | Used oil                              | 5                         | 13.0                        | 82.0                          |
| Met-Cut 754HD                    | Not used oil                          | 20                        | 80.0                        | 0                             |
| Lubricoolant 2050 AC             | DW WT02                               | 75                        | 22.0                        | 3.0                           |
| Rapid Tap Cutting Fluid 22 oil   | Tolling or rebut                      | 85                        | 15.0                        | 0                             |
| Fuchs Ecocut 30EDM               | Used oil                              | ?*                        | 100                         | 0                             |
| Smartcut                         | Tolling or rebut                      | ?*                        | 100                         | ?                             |

**§ 279.10 Applicability. (b) Mixtures of used oil and hazardous waste -**

**(1) (ii) Rebuttable presumption for used oil.** Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste because it has been

mixed with halogenated hazardous waste listed in subpart D of part 261 of this chapter. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by showing that the used oil does not contain significant

concentrations of halogenated hazardous constituents listed in appendix VIII of [part 261](#) of this chapter).

(A) The rebuttable presumption does not apply to metalworking oils/fluids [containing](#) chlorinated paraffins, if they are processed, through a tolling arrangement as described in [§ 279.24\(c\)](#), to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed.

**§ 279.44 Rebuttable presumption for [used oil](#).**

(a) To ensure that [used oil](#) is not a [hazardous waste](#) under the rebuttable presumption of [§ 279.10\(b\)\(1\)\(ii\)](#), the [used oil transporter](#) must determine whether the total halogen content of [used oil](#) being transported or stored at a [transfer facility](#) is above or below 1,000 ppm.

(b) The [transporter](#) must make this determination by:

(1) Testing the [used oil](#); or

(2) Applying knowledge of the halogen content of the [used oil](#) in light of the materials or processes used.

(c) If the [used oil contains](#) greater than or equal to 1,000 ppm total halogens, it is presumed to be a [hazardous waste](#) because it has been mixed with halogenated [hazardous waste](#) listed in subpart D of [part 261](#) of this chapter. The [owner](#) or [operator](#) may rebut the presumption by demonstrating that the [used oil](#) does not contain [hazardous waste](#) (for example, by showing that the [used oil](#) does not contain significant concentrations of halogenated hazardous constituents listed in appendix VIII of [part 261](#) of this chapter).

(1) The rebuttable presumption does not apply to metalworking oils/fluids [containing](#) chlorinated paraffins, if they are processed, through a tolling arrangement as described in [§ 279.24\(c\)](#), to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed.

**40cfr279.24(c) Tolling arrangements.** [Used oil generators](#) may arrange for [used oil](#) to be transported by a [transporter](#) without an [EPA identification number](#) if the [used oil](#) is reclaimed under a contractual agreement pursuant to which reclaimed oil is returned by the processor/re-refiner to the [generator](#) for use as a lubricant, cutting oil, or coolant. The contract (known as a “tolling arrangement”) must indicate:

(1) The type of [used oil](#) and the frequency of shipments;

(2) That the vehicle used to transport the [used oil](#) to the processing/re-refining [facility](#) and to deliver recycled [used oil](#) back to the [generator](#) is owned and operated by the [used oil processor/re-refiner](#); and

(3) That reclaimed oil will be returned to the [generator](#).