



Machine Cutting Fluids

Issues with Waste Characterization

MassDEP/CERO

NEWMOA Webinar - August 11, 2020

Machine Cutting Fluids

- ▶ MassDEP has observed at several machine shops the manifesting of machine cutting fluids that have been shipped with improper waste codes.
- ▶ Frequent erroneous code is D008 (lead), have also seen D011 (silver) + D007 (chromium). Have seen improper mixing of waste oil and non-hazardous liquid (coolant/grinding fluid), making whole mixture waste oil/hazardous in Mass.
- ▶ This is due to old waste profiles that the companies and licensed waste transporters have relied on and not enough communication ongoing between them.
- ▶ Lack of understanding on both parts of the ramifications of improper manifesting and lack of recent profiling/ waste ID.

Machine Cutting Fluids

- ▶ When brought to the companies' attention about the codes, the companies are surprised because they do not process metal containing Pb or Ag.
- ▶ The fluids can be considered waste oil or wastewater depending on oil content of fluid and oil it picks up (way oil). Some coolants and grinding fluids do not contain petroleum and would not be hazardous waste.
- ▶ Waste oil codes are MA01 or MA98 (off-specification used oil fuel).
- ▶ Wastewater code is MA99.



Machine Cutting Fluid 1 - SDS

QUALICHEM

SAFETY DATA SHEET

1. Identification

Product identifier XTREME CUT 735S
Other means of identification None.
Recommended use Cutting and Grinding Fluid
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Manufacturer Name QualiChem, Inc.
Address PO Box 926
Salem, VA USA
Telephone +1-540-375-6700
Email customerservice@qualichem.com
Website www.qualichem.com
Emergency Phone Number For Chemical Emergency ONLY (spill, leak, fire, exposure, or accident), 24 hour emergency telephone, call Chemtel at +1-800-255-3924 (US, Canada); +1-813-248-0585 elsewhere.

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Not classified.
Label elements
Hazard symbol None.
Signal word None.
Hazard statement Not available.
Precautionary statement
Prevention Not available.
Response Wash hands after handling.
Storage Store away from incompatible materials.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information 40.92% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

Machine Cutting Fluid 1 - SDS

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates, (petroleum), hydrotreated heavy naphthenic		64742-52-5	40 - 60
Distillates (Fischer-Tropsch), heavy, C18-50 branched, cyclic and linear		848301-69-9	20 - 40
Other components below reportable levels			10 - 20

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.

Material name: XTREME CUT 735S

2007 Version #: 01 Issue date: 02-17-2016

SDS US

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Initial boiling point and boiling range	> 490 °F (> 254.4 °C)
Flash point	350 °F (176.7 °C) Cleveland Open Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 1.0 mm Hg estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	0.88 g/cm ³ 7.37 lb/gal
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Kinematic viscosity	21.12 cSt
Kinematic viscosity temperature	104 °F (40 °C)
Oxidizing properties	Not oxidizing.
Specific gravity	0.88

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

Machine Cutting Fluids - Optim, Form Roll Die

changed once a year. An anomaly that facility personnel cannot explain is the fact that the transporter has been manifesting their waste (believed to likely be MA01) as D008/D011 including silver where none is handled on site. The company is investigating through its

characterized as waste oil/waste oil and water). The Company has had its waste re-profiled and is now using a state-regulated waste oil code to describe its waste coolant and water mixture.

as required as a Small Quantity Generator (SQG) of hazardous waste. It was noticed that some manifested hazardous wastes being shipped were being accompanied by the D008 waste code, specifying a contaminant of lead. In talking with Safety Kleen post-inspection, it seemed that they had incorrectly characterized the waste stream. Safety Kleen verbally confirmed that the lead waste code and description would be removed from hazardous waste manifests and that the hazardous waste being transferred from Form Roll Die Corp. did not contain lead. Due to the

Machine Cutting Fluids - Southbridge Sheet Metal



Machine Cutting Fluids - Southbridge Sheet Metal

trough and unit itself) is changed as needed. At the time of inspection, it appeared that the Timesaver water had been changed out twice in 2015 resulting in approximately 440 gallons of wastewater at the time of pickup, but required research by the company since the Timesaver volume did not equate to that amount. In the past, this waste stream has been managed and shipped as an MA99 waste stream, however in the past two years, it has been shipped with an "MA01" waste code. (The 2006 inspection report and notes indicate that the Timesaver waste water was characterized as "MA99".) The company does not believe anything has changed with its waste stream and it may be that the transporter is being more cautious manifesting it this way or if it observes any oil content. New profiling will be conducted to determine oil content and whether it is necessary to manifest it as a hazardous waste or not.

- Company was cited for acting out of its VSQG waste oil status
- Enforcement was "higher level" and included a small penalty. Company thought they had complied & managed their waste streams properly.
- Determined transporter driver had combined the non-hazardous coolant stream with the hazardous waste oil stream and employee/company simply failed to notice when coolant waste was manifested using waste oil code), creating much greater volume shipped -----> status exceedance.



Company thought they were managing everything correctly - non-hazardous coolant separately from waste oil coolant

---Formerly manifested as non-hazardous waste water stream

---Company demonstrated on rag that the fluid did not behave like oil or leave a residue or odor on the rag.

Machine Cutting Fluid 2 - SDS

Website www.masterchemical.com
E-mail info@masterchemical.com
Emergency phone number CHEMTREC 1-800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Acute toxicity, oral Not classified
Acute toxicity, dermal Not classified
Skin corrosion/irritation Not classified
Serious eye damage/eye irritation Category 2B

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word Warning

Hazard statement Causes eye irritation.

Precautionary statement

Prevention Wash hands thoroughly after handling.

Response If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
SEVERELY HYDROTREATED PETROLEUM OIL		64742-52-5	30 - < 40
TRADE SECRET*		Proprietary*	10 - < 20
TRADE SECRET*		Proprietary*	1 - < 3
TRADE SECRET*		Proprietary*	1 - < 3
Other components below reportable levels			30 - < 40

Machine Cutting Fluid 2 - SDS

Color	Blue green
Odor	Mild, sweet
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-0.4 °F (-18 °C)
Initial boiling point and boiling range	208.4 °F (98 °C)
Flash point	> 208.4 °F (> 98.0 °C)
Evaporation rate	< 1 BuAc
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Soluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Flash point class	ASTM D93-08
pH in aqueous solution	8 - 9
Specific gravity	0.952 - 1.052

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

Other waste streams

- ▶ Envelope printing company with old, outdated profiles for waste oil, SK parts washer, & ink.
- ▶ VSQG of EPA-hazardous waste & waste oil. However, it was noticed that they were shipping parts washer waste using D039, indicated TCE as a contaminant when no TCE used. (*NEWMOA discussion on this on July 28)
- ▶ They were also using D008 when shipping waste oil, indicating lead as a contaminant. Trace amounts of silver are in the photo fixer solution, which helps explain why the transporter characterized it as silver-containing and using the D011 waste code (although doubtful it contained enough silver to fail TCLP). The waste ink also carried the waste code D008 when no lead is actually present in the inks (for years).
- ▶ The Company was cited for failure to determine if wastes are hazardous wastes.

Companies trust their transporters to know best...

- ▶ Waste profile said no lead yet lead D008 waste code was used. HMMMM? Flashback to the 1990s thinking ink could have had lead?? Profile indicated lead "N/A"
- ▶ At another metalworking source seen in 2019, non-hazardous waste water (MA99) was mixed with pure waste petroleum oil (MA98/MA01 in Mass) and manifested with waste code "None" - why? Ease of disposal at a facility out of state/"no skin off the transporter's nose" but manifesting was not correct. Company had correctly identified, managed, and labeled the 2 separate waste streams; change in practice "COMBINING" THE TWO WAS NEW and the company had questioned but transporter said it was OK. Company stated it costs them 3x as much to dispose of the wastewater than the straight waste oil.

Reflections on what we've seen

- ▶ Demonstrates a need for regular communication between generators & transporters (lacking in these cases despite semi-regular contact with transporter's driver).
- ▶ Better training for small business as far as HW management requirements incl. manifesting correctly. Employees of small business don't realize they even have a problem!
- ▶ Saving \$\$ in the long run to communicate more/re-profile/manifest correctly & correctly ID type of generator they are (EPA HW vs. state regulated waste oil)
- ▶ Ramifications to shipping certain HW (notably wastes coded as containing heavy metals) through the system when totally unnecessary - longer transport, more management, extra steps, greater pollution, reputation/HW status, more attention from regulators when not as necessary.

Thank you! Happy trails!

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