PROCEEDING
3rd International Conference of Health Polytechnic of Jambi 2024
icon@poltekkesjambi.ac.id
http://journal.poltekkesjambi.ac.id/index.php/ICoHPJ
doi.org/10.35910/icohpj.v3i0

AN OVERVIEW OF USED OIL MANAGEMENT IN THE KEBUN HANDIL MARKET REPAIR SHOP, JAMBI CITY

Suparmi[1*], Bambang Ariyadi[1], Rina Fauziah[1], Vina Desentin[1]
[1]Health Polytechnic of Jambi
Correspondingauthor: suparmirudyanto@yahoo.co.id

ABSTRACT

Background: The increase in motorcycle use has also resulted in an increase in the amount of used oil waste. Used oil is one of the B3 category wastes which if not managed properly and correctly can pollute the environment. This research aims to look at the description of used oil management in the Kebun Handil Market motorcycle repair shop area in Jambi City including storage, collection, and transportation of used oil.
Method: The type of research used was descriptive with an observational approach. The research sample was the entire population or total sampling with inclusion criteria so that a research sample of 51 motorcycle repair shop in Kebun Handil Market in Jambi City was obtained.
Result: The results showed that as many as 74.5% of repair shop had watertight floors, 100% of used oil storage packaging was not given toxic hazardous waste symbols and labels, 70.5% of used oil storage packaging conditions were not damaged, 100% there was no toxic hazardous waste spill handling equipment (spill kit), 17, 6% there are first aid facilities in accidents, 27.4% there are fire extinguishers, 27.4% of used oil collectors have licenses, 27.4% have cooperation contracts between producers and collectors, 27.4% have proof of delivery of toxic hazardous waste from producers and collectors, and 27.4% of toxic hazardous waste transporters have licenses.
Conclusion: The conclusion of the research shows that the storage and collection of used oil has a poor category and transportation of used oil has a good category.

Keywords: Toxic hazardous waste, used oil, storage, collection, transportation

INTRODUCTION

A general motor vehicle repair shop is a public repair shop with the function is to repair and maintain motor vehicles so that the motor vehicles still have a good technical requirements and roadworthy (Kurkarni, 2023). A repair shop is a type of small and medium enterpreneurship that operates in the field of repair services, it can be motorbikes or cars (Yoga, 2013).

Motor vehicle maintenance and repair activities certainly produce waste, fo example used oil waste. Used oil waste is one of the hazardous and toxic waste materials (B3) from motor vehicle repair shop. Used oil waste contains high levels of metals, additives, and other fuel residues (Han & Goleman, 2019). Especially with the presence of lead content. Its absorption into the soil will impact to the microorganisms which have a very important function in soil fertility, and in this case also cause soil pollution. Soil pollution can also have an impact on the ecosystem.

In Jambi city there are many motorcycle repair shops, but the repair shops that centered in one area is at Kebun Handil Market, Jambi City. With so many repair shops centered in one area, of course a lot of used oil is produce. Based on preliminary survey conducted at 10 repair shop stalls at Kebun Handil Market, Jambi City, on average each stalls can produce 16-20 liters of used oil

per day if there are a lot of customers, and less than 1 liter per day if their are few customers. A total of 8 repair shop stalls that provide service/maintenance services have blackish colored floors due to spills of used oil. This can be pollute the soil and surrounding environment if it's not managed properly. 10 repair shop stalls stored used oil only in metal tank without B3 symbols and labels and it placed in front of the stalls and partially exposed to direct sunlight and rain. Used oil is collected using jerry cans/used oil bottles that are modified by cutting them in half to form a funnel or open container so that they can hold the used oil before being put into the storage tank. 7 repair shop stalls transport used oil every 2-3 months and hand it over to parties who use the used oil (for sale).

Based on the problems above, it can be seen that the management of used oil in Kebun Handil Market Reair Shop in Jambi City has not been handled optimally. So researchers are interested in conducting research on "An Overview Of Used Oil Management in the Kebun Handil Market Repair Shop, Jambi City".

METHODS

The type of research using descriptive with an observational approach. The sample in this study was the entire population (total sampling) with a total of 51 samples. The data collection tool in this research is using checklist by observation. The checklist value measurement in this research is that the answer is Yes = 1, No = 0, the results obtained are categorized as good if ≥ 75%, and categorized as bad if < 75%. To processing data in this research, using editing, coding, data entry, tabulation and cleaning techniques.

Data analysis in this research uses univariate (descriptive) analysis which aims to see a description of the management of used oil that grouped in poor or good category which includes storage, collection and transportation of used oil at the Kebun Handil Market Repai Shop, Jambi City.

RESULTS AND DISCUSSION

a. Storage of Used Oil

Table 1. Storage of Used Oil

No	Assessment Components	Yes		No	
		N	%	N	%
1	Used oil storage facilities in the form of tanks and/or containers	51	100	0	0
2	Used oil storage location is free from flooding	47	92.16	4	7.84
3	Used oil storage location is not prone to natural disasters	51	100	0	0
4	Protected from direct sunlight	44	86.27	7	13.73
5	Protected form rainwater ingress	42	82.35	9	17.65
6	Has an airtight floor	38	74.51	13	25.49
7	Equipped with B3 waste symbols and labeks in accordance with applicable regulations. (Used oil code: B105d, Used oil characteristics: Toxic)	0	0	51	100
8	Used oil is packaged using metal or plastic packaging	51	100	0	0
9	The packaging is able to contain used oil B3 waste so that it remains in the packaging	51	100	0	0
10	Has a strong cover to prevent spills during transfer and/or transportation	42	82.35	9	17.65
11	The packaging is not leaking	51	100	0	0
12	The packaging is not rusty	39	76.47	12	23.53
13	The packaging is not damaged	36	70.59	15	29.41
14	There is B3 waste handling equipment (spill kit)	0	0	51	100
15	There are first aid facilities (P3K)	9	17.65	42	82.35
16	There is emergency response equipment such as a detection system and emergency fire extinguishers (APAR)	14	27.45	37	72.55
17	Used oil is stored for a maximum of 365 (three hundred and sixty five) days since it is produced, for used oil produced less than 50 kg (fifty kilograms) per day	51	100	0	0

Table 1 showed that the storage of used oil at Kebun Handil Market Repair Shop is have a poor category. It's because there is still some item that didn't match with the regulation, such as watertight floors, symbols/lables of toxic hazardous waste on storage tank, good storage tank condition, the was was toxic hazardous waste spill handling equipment (spill kit), there are first aid

facilities in accidents, and there are fire extinguishers.

b. Collection of Used Oil

Table 2. Collection of Used Oil

No	Assessment Components	Yes		No	
		N	%	N	%
1	Used oil produced in the workshop is collected	51	100	0	0
2	The collected used oil is separated from other types of B3 waste (B3 waste segregation is carried out)	51	100	0	0
3	The collection of used oil is carried out by B3 waste Collectors (3rd party)	51	100	0	0
4	The used oil collector has a B3 Waste Management permit for B3 Waste Collection	14	27.45	39	72.55
5	Have a cooperation contract between the producer and collector (3rd party)	14	27.45	39	72.55
6	Have proof of handover of B3 waste from the producer to the collector	14	27.45	39	72.55

Table 2 showed that the collection of used oil at Kebun Handil Market Repair Shop is have a poor category. It's because there is still some item that didn't match with the regulation, such as licenses of used oil collectors, cooperation contracts between producers and collectors, and licenses of transporters.

c. Transportation of Used Oil

Table 3. Transportation of Used Oil

No	Assessment Components	Yes		No	
		N	%	N	%
1	Used oil produced by the workshop is transported	51	100	0	0
2	Transportation of used oil is carried out by a B3 waste transporter (3rd party)	51	100	0	0
3	The B3 waste transporter has a B3 waste management permit for B3 waste transport	14	27.45	39	72.55
4	Used oil is transported using 4-wheeled vehicles or more with open/closed containers	51	100	0	0
5	Used oil is transported by road/railway/water transport	51	100	0	0

Table 4.3 showed that the transportation of used oil at Kebun Handil Market Repair Shop is have a good category, but there is one item that didn't match with the regulation, it's licenses of used oil transporters.

CONCLUSION

The conclusion of the research about an overview of used oil management in the Kebun Handil Market Repair Shop showed that the storage of used oil is has a poor category with a percentage of 64,7%, the collection of used oil also has a poor category with a percentage of 60%, and the transportation of used oil has a good category with a percentage of 80%.

REFERENCES

Bawamenewi, A, Y, A., (2015), "Pengelolaan Limbah Minyak Pelumas (Oli) Bekas Oleh Bengkel Sebagai Upaya Pengendalian Pencemaran Lingkungan Di Kota Yogyakarta Berdasarkan Peraturan Daerah Kota Yogyakarta Nomor 1 Tahun 2012 Tentang Pengelolaan Lingkungan Hidup". Jurnal Fakultas Hukum Universitas Atma Jaya Yogyakarta

Data Pasar Kebun Handil Tahun 2023, Dinas Perdagangan dan Perindustrian Kota Jambi.

Nurdiani, D., Yosephina, Septiati A., Wahyudin, D., Ujang, Nurjaman, Program Diploma III Sanitasi Jurusan Kesehatan Lingkungan. (n.d). Pengelolaan Limbah Bahan Berbahaya dan Beracun (B3) Khusus Oli Bekas Pada Bengkel Kendaraan Bermotor di Wilayah Kecamatan Panumbangan Kabupaten Ciamis Tahun 2021.

Faizah, L., Prodi Sanitasi Program Diploma Tiga, Pengelolaan Limbah B3 di Bengkel Pasar Kebun Handil Kota Jambi Tahun 2018.

Kesehatan, J., Masyarakat, K., & Oleo, U. H. (n.d.). A MOKODOMPIT Syarwan Syahrir.

Mukhlishoh, I. A. N. (n.d.). Pengelolaan

Limbah B3 Bengkel Resmi Kendaraan Bermotor Roda Dua di Surabaya Pusat. Jurnal Teknik Lingkungan.

Mulyono, T., Verawati, K., (2021)., Perkembangan dan Sistem Pengangkutan Limbah Berbahaya dan Beracun (B3) di Indonesia., Teknik Sipil Universitas Negeri Jakarta.

Notoatmodjo. (2005). Metodologi Penelitian Kesehatan. PT.Rineka Cipta. Peraturan Menteri Kesehatan Republik Indonesia Nomor 2 Tahun 2023 Tentang Peraturan Pelaksanaan Peraturan Pemerintah Nomor 66 Tahun 2014 tentang Kesehatan Lingkungan. (2023).

Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor 6 Tahun 2021 Tentang Tata Cara dan Persyaratan Pengelolaan Limbah Bahan Berbahaya dan Beracun. (2021).

Peraturan Pemerintah Republik Indonesia Nomor 22 Tahun 2021 Tentang Penyelenggaraan Perlindungan dan Pengelolaan Lingkungan Hidup. (2021).

Roma, D. R. M., Rupiwardani, I., Yohanan, A., Program Studi Kesehatan Lingkungan, M., Widyagama Husada, S., & Program Studi Kesehatan Lingkungan, D. (n.d.). Pengelolaan Limbah Oli Bekas pada Bengkel Motor di Kota Malang.

Sugiyono. (2016). Metode Penelitian Kuantitaif, Kualitatif dan R&D. PT Alfabet.

Susanto, A. (n.d.). Simposium Nasional RAPI XIII-2014 FT UMS.

Darsono, V., 2013, Panduan Pengelolaan Green Industry, Cahaya Atma Pustaka, Yogyakarta.

Yeni, A., & Bawamenewi, A. (n.d.). PENGELOLAAN LIMBAH MINYAK PELUMAS (OLI) BEKAS OLEH BENGKEL SEBAGAI UPAYA PENGENDALIAN PENCEMARAN LINGKUNGAN DI KOTA YOGYAKARTA BERDASARKAN PERATURAN DAERAH KOTA YOGYAKARTA NOMOR 1 TAHUN 2012 TENTANG PENGELOLAAN LINGKUNGAN HIDUP. http://hukum.jojakota.go.id/data/12PDY001.pdf,

Yulianto, E., Program Studi Pendidikan Teknik Otomotif Fakultas Teknik Universitas Negeri Yogyakarta. (n.d.). Pengelolaan Limbah Bahan Berbahaya dan Beracun (B3) di Bengkel Program StudiI Pendidikan Teknik Otomotif Fakultas Teknik Universitas Negeri Yogyakarta. 23569-Article Text-61305-1-10- 20211030. (n.d.).

Daud, M., Robby, A., Pramestyawati, N., Lingkungan, J. T., Sipil, T., Itats, P., Arief, J. L., & Hakim, R. (2023). STUDI PENGANGKUTAN DAN PENGUMPULAN LIMBAH B3 OLEH TRANSPORTER DAN PENGUMPUL LIMBAH B3. ~ 182 ~ Environmental Engineering Journal ITATS ENVITATS, 3(2)