



USED COOKING OIL

SOLUTION TO INDIA'S HEALTH, ENERGY AND ENVIRONMENT



Indian Cooking & Edible Oils



Indian food and cooking style is highly dependent on Edible Oils for Frying, Gravy, Garnishing, Pickles etc.

23 Million Tons
per year



Major Varieties:

- ❖ Groundnut / Sunflower / Olive / Rice Bran / Canola / Mustard / Palm / Sesame / Soya Bean / Coconut

FSSAI on Used Cooking Oil (UCO)



F.No. 1-2/ Stds/O&F/ Notification n(II)/ FSSAI-2018

Food Safety and Standards Authority of India

(A statutory Authority under the Ministry of Health and Family Welfare, Govt. of India)

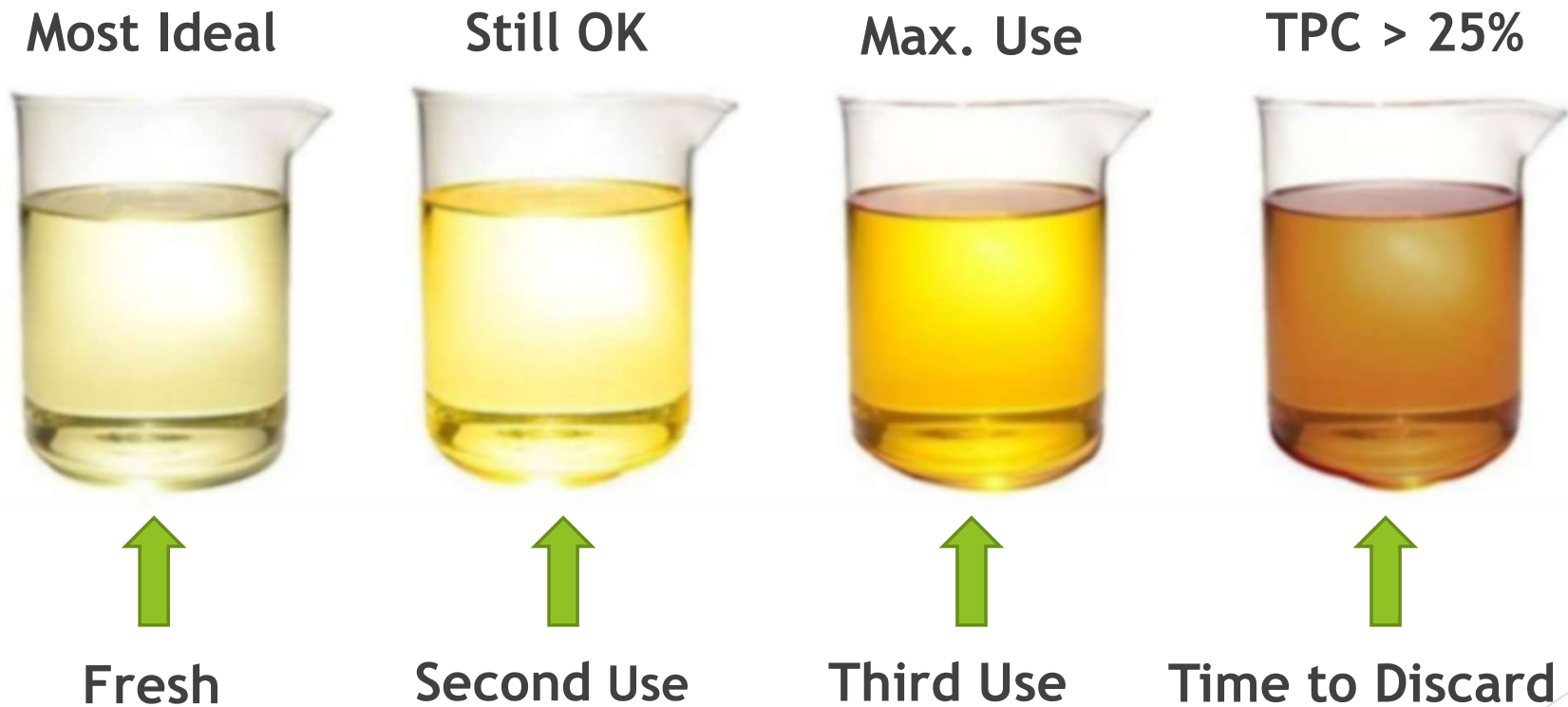
FDA Bhawan, Kotla Road, New Delhi-110002

Dated, the 30th January, 2019

Subject: Direction under Section 16 (5) of Food Safety and Standards Act, 2006 regarding disposal and collection of Used Cooking Oil (UCO)

Repeated frying of oil leads to changes in physiochemical, nutritional and sensory properties of edible oil. During frying Total Polar Compounds are formed in the oil which have adverse effects on health. In this regard, Food authority has notified Food Safety and Standards (Licensing and Registration) First Amendment Regulation, 2017 on 24th October, 2017 which prescribes the limit for Total Polar Compounds (TPC) to be maximum 25% beyond which the vegetable oil is not suitable for use.

Ideal stages of Edible Oil Usage



TPC = Total Polar Compound < 25% in Oil

Generally What People Say & Do!



I use it
several
times for
frying....
No
problem!

I prepare
gravy and
vegetables
... No waste!

I top it up
with fresh
oil and use
it again....

Throw it as
waste or
pour it
down the
drain

Given it to
a local
waste
collector

Clean,
reprocess
and
resupply as
fresh oil

Small
restaurants
/ Street
Vendors /
Dhabas buy
it



Health Issues with UCO



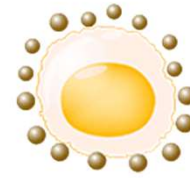
- 👉 Used Cooking Oil turns rancid and can be carcinogenic and can increase free radicals in the body
- 👉 Free radical can cause high inflammation, which reduces immunity and poses health issues and ailments like:

- ▶ Obesity
- ▶ Diabetes
- ▶ Increase in LDL or bad cholesterol
- ▶ Hypertension
- ▶ Atherosclerosis - Disease in which plaque builds up inside the arteries
- ▶ Alzheimer's / Parkinson's
- ▶ Liver disease

Cells and free radicals



HEALTHY CELL



CELLS DAMAGED
BY
FREE RADICALS



OXIDATIVE STRESS
(CELL DAMAGE)



SOPs for Edible Oil Usage and Disposal



Choose good quality frying oil

- Oils with high saturated and monounsaturated fatty acids are good
- Read Nutrition details on oil packs



Frying temperature should be lower than smoke point of oil

- Ghee and vegetable oils have high smoke point
- Oils with lower smoke point are not suitable for frying



Avoid repeated use of cooking oil for frying

- Changes in physiochemical and nutritional properties
- TPC should be less than 25%, else avoid usage & discard

SOPs for Edible Oil Usage and Disposal



Remove suspended food particles before reuse

- If Ok, reuse it for gravy/curry preparation
- Consume within two days



Do not reuse after third frying

- Oil may become inconsistent / rancid / carcinogenic
- Check for change in taste / color / bubbles formation



Do not throw it down the drain

- Dispose Responsibly
- Should be given only to Authorized Oil Collectors registered with FSSAI to avoid retry of UCO in food supply chain - MISUSE

Responsible Steps



Use Good Edible Oil for Cooking / Frying
(Read Nutritional Details on Oil packs)



Stop reuse after max. 3rd use.
(Check odor / color / smoke)
TPC>25%

To avoid misuse dispose UCO
responsibly to FSSAI authorized
UCO aggregators / collection
agencies.



UCO to **RUCO**
REPURPOSE USED COOKING OIL



Regulation

Maximum limit of 25% TPC
beyond which oil is
unsafe to use



EEE STRATEGY

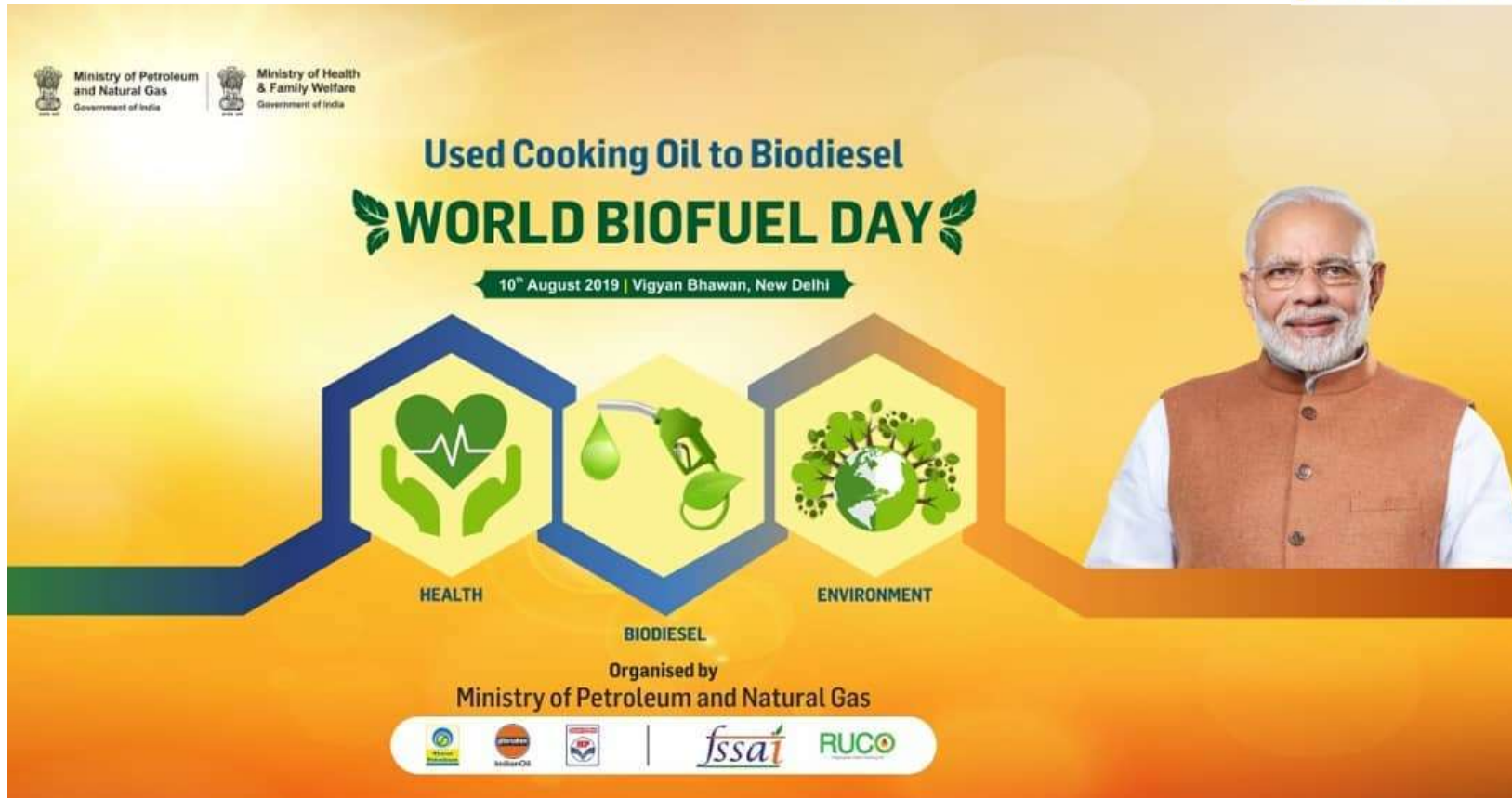
- Education
- Enforcement
- Ecosystem



RUCO
REPURPOSE USED COOKING OIL



World Bio Fuel Day 10th August



- ☐ 10% reduction in energy import bill of the nation by 2022
- ☐ Savings in imports by approx. USD 10 billion per year
- ☐ 20% Ethanol blending with Petrol / 5% Bio Diesel blending with Diesel 2030 by OMCs





UCO production



Collection &
aggregation of UCO



Transportation to the
processing points



Pre-processing and
converting to biodiesel



Blending biodiesel into
diesel fuels



fuel distribution and
use

Ecosystem For UCO



Housing societies who want to promote safe cooking habits for residents



Hotels/Restaurants



Fried package food manufacturers



Street food vendors



Caterers/Canteens/Banquet Halls



Collection & aggregation of UCO



Ecosystem For UCO



UCO Feedstock Supply for Bio Diesel



UCO Collection
& Supply



MP & CG Region



2020

Bio Diesel
Production



120KL/day Bio Diesel
@Bawal, Haryana Plant
Since Aug 2019

GOLDPLUCK as authorized aggregator



➤ fssai.gov.in/ruco/enrolled-biodiesel-manufacturers.php



RUCO
REPURPOSE USED COOKING OIL

[Home](#) [Biodiesel Manufacturers](#) [Resources](#)

3. BioD Energy(India) Pvt Ltd

Address:	Plot No 2-5, Sector-9. Phase-I, IMT Bawal, Rewari(Haryana) – 123501
Contact No:	011-47289900
Email ID:	info@biodenergy.in
Aggregator(s)	(i) M/s Blue Stone Energy Pvt. Ltd. (ii) M/s Zomato Internet Pvt. Ltd. (iii) Goldpluck Private Limited.

<https://fssai.gov.in/ruco/enrolled-biodiesel-manufacturers.php#list-aggregator>



GOLDPLUCK as authorized aggregator



where the future of ENERGY lies >>

Dated: 7th May, 2020

TO WHOMSOEVER IT MAY CONCERN

This is to clarify that the company M/s **BiOD Energy (India) Private Limited** ("Company") having its office at F-402, Ras Vilas Mall, D-1, District Centre, Saket, New Delhi – 110 017 is engaged in the business of manufacturing pure Bio-Diesel (B100) as per the Indian Standards of IS 15607 from multiple feedstock (waste / used vegetable oils) in India.

We are registered firm with FSSAI for their RUCO initiative and to collect this UCO we authorize M/s **GOLDPLUCK PRIVATE LIMITED** having registered office at No. 112, Block 7, Green City, E-8 Arera Colony, BHOPAL, Bhopal, Madhya Pradesh, India, 462039, to be an aggregator. The acknowledgement copy from FSSAI is attached for your reference.

It is made clear that the company will use the **Used Cooking Oil ("UCO")** bought / obtained from **GOLDPLUCK PRIVATE LIMITED** for the production of Biodiesel only and nothing else.

Yours sincerely,

for **BIOD ENERGY (INDIA) PRIVATE LIMITED**
CIN: U24102DL2015PTC277097

Authorized Signatory

For **BIOD ENERGY (INDIA) PVT. LTD**

Benefits



- Regularized UCO collection from FBOs / Households - Mission SWACHH
- Avoided food adulteration with UCO by vendors - Mission SHUDH
- UCO as feedstock for Bio Diesel - Mission REDUCE, RECYCLE & REUSE
- Bio Diesel from UCO - Mission NATIONAL ENERGY SECURITY
- Bio Diesel for Vehicles and Utilities - Mission CLEAN ENVIRONMENT
- People participation - Mission SUSTAINABILITY & EMPLOYMENT

Benefits for FBOs and Consumers



FBOs will receive GREEN CERTIFICATE for responsible UCO disposal

Customers can confidently and safely eat at complaint food outlets



Get economical Bio-diesel in return for utilities / facilities / automobile

Bio Diesel Vs Diesel Vs Battery (EV)



SN	Parameters	Bio Diesel (FAME)	Conventional Diesel (HSD)	Electric Battery Operated (EV)
1.	Particulate Emission	30% Lower	☹️	😊
2.	Hydro-carbon Exhaust	90% Lower	☹️	😊
3.	Carbon Monoxide	50% Lower	☹️	😊
4.	Carbon Dioxide	95% Lower	☹️	😊
5.	Sulphur	NIL	☹️	😊
6.	Efficiency	12% Higher	☹️	Battery dependent
7.	Engine-Motor Performance	Improves	☹️	Battery dependent
8.	Mileage	Better	☹️	☹️
9.	Vehicle & Cost	No Change	No Change	☹️
10.	Raw Material	Waste Cooking Oil	Fossil Fuel	Lithium
11.	Refueling /Recharging	Cheaper / Can also be mixed with normal diesel	Expensive	Very Limited
12.	GST Benefit	YES	No	Not clear

Challenges for UCO & Bio-Diesel



Lack of awareness on misuse of UCO and its adverse impact on health

Poor disposal methods of UCO by FBOs and Households

Informal collection by unorganized sector leading to UCO misuse

Re-entry of UCO in Food Value Chain by Small Vendors

Diversion of UCO for other purposes, like for soaps, lubricants etc.

Limited infrastructure for UCO repurposing to Bio Diesel

Limited promotion and incentives on Bio Diesel usage

Limited acceptance to switch over to cleaner and greener Bio Diesel



Each drop of Used Cooking Oil

Is going to contribute to our
Communities and the Country.

Let's take a pledge to dispose it responsibly

THANK YOU