



HyperBoost™
OIL-BOOSTED HOP EXTRACT

**PRODUCT
DATA
SHEET**

PACKAGED BY

Yakima Chief Hops
306 Division Street, Yakima, WA 98902 USA
Phone (509) 457-3200

DESCRIPTION

HyperBoost™, formerly YCH 701, is an oil-enriched hop extract which is flowable at room temperature. It is produced through an innovative supercritical CO₂ extraction process. HyperBoost is intended to amplify hop aromatics and increase yield. It can be used in whirlpool and in dry hopping applications. HyperBoost is produced from single hop varieties to deliver variety specific flavors to your beer with the ability to provide a flavor boost to finished beer. HyperBoost contains 15-40% alpha acids, 6-15% beta acids, and > 40% total oil.

AVAILABLE VARIETIES

HyperBoost is currently available in Citra®, Simcoe®, Mosaic®, and more!

STORAGE RECOMMENDATIONS

HyperBoost should be stored in its original aluminum bottle and be kept sealed at all times. HyperBoost should be stored in near freezing conditions, preferably between 30°F and 41°F (-1°C and 5°C). HyperBoost remains completely flowable even below freezing. HyperBoost will remain stable in closed containers for two years. Please note that due to its high oil content, HyperBoost is a flammable product and should be stored according to local, state and federal guidelines. Partial bottles should be used within six months of opening for best quality.

REPLACEMENT RATE RECOMMENDATIONS

1. In Whirlpool: replace T-90 Hop Pellet additions at a rate of 50-to-1 by weight (e.g. 1 kg T-90 becomes 20 g HyperBoost).
2. In Dry Hop: replace T-90 Hop Pellet additions at a rate of 100 - 125 to-1 by weight (e.g. 1 kg T-90 becomes 8 g HyperBoost).

DOSING RECOMMENDATIONS

YCH recommends replacing up to 100% of the Whirlpool, or 25% to 50% of the dry hop addition with HyperBoost and leaving up to 50% of the addition as T-90 Hop Pellets and/or Cryo Hops® Pellets. This dry hopping recommendation is just a guideline to start with. There's technically no issue with using a higher percentage of HyperBoost in the dry hop, but many brewers prefer the flavor and mouthfeel that leaf material provides.

While HyperBoost can be used later in fermentation, or in the brite tank, it is not recommended. In these applications, high amounts of terpene-derived aromas can make it into a beer, which may cause excessive vegetal/herbal/earthy notes. The best use of HyperBoost is during active fermentation - it can be added as early as during yeast pitch. YCH recommends adding HyperBoost while still at fermentation temperatures, ideally at least two days before crashing. If fermentation has completely ceased at the time of addition, a mixing step should be performed.



YAKIMA CHIEF HOPS®



HyperBoost™
OIL-BOOSTED HOP EXTRACT

SPECIFICATION SHEET

PACKAGED BY


Yakima Chief Hops
306 Division Street, Yakima, WA 98902 USA
Phone 1 (509) 457 3200

METHOD ASSAY	METHOD	TYPICAL ANALYSIS
Identification	UV absorption curve is similar to that of referenced standard	-
Alpha Acids Assay	UV Spectro by ASBC HOPS-6A, HPLC - EBC 7.7 or ASBC HOPS-14 (ICE-4 Std.)	15-40% (w/w)
Beta Acids Assay	UV Spectro by ASBC HOPS-6A, HPLC - EBC 7.7 or ASBC HOPS-14 (ICE-4 Std.)	5-15% (w/w)
% Oils by Distillation	EBC 7.10 or ASBC HOPS-13	>40% (w/w)

1. PRODUCT IDENTIFICATION

1.1 Product Name	HyperBoost™, YCH 701Trial, Oil Enriched Extract Made from Hop Pellets
1.2 Supplier	Yakima Chief Hops Inc. 306 Division St. Yakima, WA 98902 (USA) Phone: 1.509.453.7200 Email: quality@yakimachief.com Website: yakimachief.com
1.3 Recommended Use	Ingredient used in brewing beer.
1.4 Restrictions on Use	None

2. HAZARD IDENTIFICATION

2.1 Hazard Classification	Flammable liquid, Category 3.
2.2 Label Elements	 <p>Signal word: Warning Hazard statements: H226 – Flammable liquid and vapor Precautionary statements: P210 – Keep away from heat/sparks/open flames/hot surfaces – No smoking P381 – Eliminate all ignition sources if safe to do so. P403 + 235 – Store in a well ventilated place. Keep cool.</p>
2.3 Other Hazards	Prolonged skin contact could cause dermatitis in some individuals.

3. COMPOSITION, INGREDIENT INFORMATION

3.1 Composition	A slightly acidic resin; concentrate of oils, alpha acids, beta acids and uncharacterized resins produced by CO2 extraction.
3.2 Hazard Components	Not Applicable Product is natural, unrefined and contains no additives.

4. FIRST AID MEASURES

4.1 Oral Ingestion	Not Applicable
4.2 Eye Contact	Wash with copious amounts of water. Seek medical attention if irritation persists.
4.3 Skin Contact	Wash with warm, soapy water. Seek medical attention if irritation persists. Launder contaminated clothing before reuse.
4.4 Inhalation	Remove affected person to fresh air. Administer oxygen if necessary.
4.5 Symptoms	Unknown

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media	Dry Powder, Foam, Water, CO2
5.2 Hazards from Fire	Closed containers may build up pressure when exposed to heat and should be cooled with water spray. Keep product and empty container away from heat and sources of ignition.

6. ACCIDENTAL RELEASE MEASURES

6.1 Procedure	Scoop/shovel spilled material into recovery container. Flush area with hot soapy water to remove final traces.
6.2 Protective Equipment	Use adequate ventilation or a respirator if in a confined area. Use rubber gloves. Wear Safety Glasses.

7. HANDLING AND STORAGE

7.1 Handling Equipment	Closed Container of Food Grade Quality Stainless Steel, Lacquered Steel or PET
7.2 Precautions	Avoid prolonged skin contact. Use personal protective equipment (Section 8)

7.3 Storage Conditions	Store at room temperature or at a temperature range of -3°C to 5°C (25°F to 41°F).
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8. EXPOSURE CONTROLS, PERSONAL PROTECTION

8.1 Permissible Exposure Limits (PELs)	Not Applicable
8.2 Threshold Limit Values (TLVs)	Not Applicable
8.3 Engineering Controls	Provide adequate ventilation
8.4 Personal Protective Equipment (PPE)	Skin Protection: wear rubber gloves if prolonged exposure Eye Protection: wear safety glasses

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance & Odor	Yellow, green or brown resin concentrate with a pungent odor.
9.2 Odor	Typical hoppy, depends on variety
9.3 Odor Threshold	No data available
9.4 pH	3 - 4
9.5 Melting Point	-20°C, depending on variety
9.6 Boiling Point	> 100°C
9.7 Flash Point	49°C
9.8 Evaporation Point	No data available
9.9 Flammability	No data available
9.10 Upper/Lower Flammability	No data available
9.11 Vapor Pressure	No data available
9.12 Vapor Density	No data available
9.13 Density	0.85 – 0.95
9.14 Solubility in Water	Insoluble
9.15 Partition Coefficient	No data available
9.16 Auto-ignition Temperature	249°C

9.17 Decomposition Temperature	No data available
9.18 Viscosity	No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity	Product is sensitive to oxidation in open containers, and/or under excessive temperatures.
10.2 Stability	Product is stable under appropriate storage conditions, in closed containers and/or under inert atmosphere. (Section 7.3)
10.3 Possibility of Hazardous Reactions	None known
10.4 Conditions to Avoid	See Section 7.3
10.5 Incompatible Materials	None Known
10.6 Hazardous Decomposition Products	None known

11. TOXICOLOGICAL INFORMATION

11.1 Acute Toxicity	None Known. Product is "Generally Recognized As Safe" (GRAS 21 CFR 182.20)
11.2 Routes of Exposure	Inhalation: No data available Ingestion: No data available Skin contact: No data available Eye contact: No data available
11.3 National Toxicology Program	Not listed on Report of Carcinogens

12. ECOLOGICAL INFORMATION


12.1 Toxicity	No data available.
12.2 Potential for Persistence and Degradation	No data available. Product is all natural and biodegradable.
12.3 Bio-accumulation	No data available. Product is all natural.
12.4 Mobility in Soil	No data available
12.5 Other Effects	No data available

13. DISPOSABLE CONSIDERATIONS

13.1 Product Disposal	According to regulations in force.
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13.2 Packaging Disposal	According to regulations in force; for paper/cardboard, steel and PET.
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14. TRANSPORTATION INFORMATION

14.1 UN Number	UN 1197 Extracts, flavoring, Liquid, 3 III
14.2 Shipping Name	HyperBoost™, YCH 701 Trial
14.3 Hazard Class	3-Flammable liquid
14.4 Packing Group	III – Minor Danger
14.5 Environmental Hazards	Non-hazardous product
14.6 Transport Section	<p>Department of Transportation (DOT) In accordance with DOT Transport document description: UN1197 Extracts, Liquid, 3, III UN-No. (DOT): UN1197 Proper Shipping Name (DOT): Extracts, liquid, Class (DOT): III Minor Danger Hazard Labels (DOT: 3- Flammable Liquid</p>  <p>DOT Packaging Non Bulk (49 CFR 173.xxx): 203 DOT Packaging Bulk (49 CFR 173.xxx): 242</p> <p>DOT Special Provisions (49 CFR 172.102): B1- If the material has a flash point at or above 38 C (100 F) and below 93 C (200F), then the bulk packaging requirements of 173.242 of this sub-chapter is applicable.</p> <p>IB3- Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2; Composite (31HZ1 and 31HA2, 31HB2,31HN2,31HD2 and 31HH2). Additional Requirements: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see special Provisions IP8 in the Table 2 for UN2672)</p> <p>T2- 1.5 178.274(d)(2) Normal 178.275(d)(3) TP1- The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees Celsius of the liquid during filling.</p>

	<p>DOT: Packaging Exceptions (49 CFR 173.xxx): 150 DOT Quantity Limitations passenger aircraft/ rail: 60 L (49CFR 173.27)</p> <p>DOT Quantity Limitations Cargo aircraft only: 220 L (49 CFR 175.75) DOT Vessel Stowage Location: A- The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.</p> <p>Emergency Response Guide (ERG) Number: 127 Other information: No supplementary information available. Transport document description (IMDG): UN 1197 EXTRACTS, LIQUID, 3, III,</p> <p>Transport by SEA UN-NO. (IMDG): 1197 Proper Shipping Name (IMDG): EXTRACTS, LIQUID CLASS (IMDG): 3-Flammable liquids Packing Group (IMDG): III – substances presenting low danger Limited Quantities (IMDG): 5 L</p> <p>Air Transport Transport document description (IATA) : UN 1197 Extracts, liquid, 3, III UN-No. (IATA): 1197 Proper Shipping Name (IATA): Extracts, liquid Class (IATA): 3-Flammable Liquids Packing Group (IATA): III- Minor Danger</p>
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15. REGULATORY INFORMATION

15.1	Regulations	Food Safe Heavy Metals, Pesticides/Herbicides/Fungicides, Nitrates, Radioactivity: Below tolerance levels. Allergenic-Free Non-GMO Traceable
15.2	REACH	Not Applicable (No EINECS Ref.)

16. OTHER INFORMATION

16.1	Issue Date	2023-02Feb-06
16.2	Revision Date	2023-08Aug-03
16.3	Other	