Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **VEGETABLE OIL EXTRACTION WITH HEXANE**

Recommended Use of the Chemical and Restrictions on Use General industrial solvent which can be used in rubber, plastics, animal fats, food, spices and other industries. Especially suitable for vegetable oil extraction.

Supplier: Ixom Operations Pty Ltd
ABN: 51 600 546 512
Street Address: Level 8, 1 Nicholson Street
East Melbourne Victoria 3002
Australia

Telephone Number: +61 3 9906 3000
Emergency Telephone: **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:
Flammable liquids - Category 2
Aspiration hazard - Category 1
Skin Irritation - Category 2
Specific target organ toxicity (single exposure) - Category 3
Toxic to Reproduction - Category 2
Specific target organ toxicity (repeated exposure) - Category 2
Acute Aquatic Toxicity - Category 2
Chronic Aquatic Toxicity - Category 2

SIGNAL WORD: DANGER

Hazard Statement(s):
H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness and dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statement(s):

Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, sparks, open flames, hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground or bond container and receiving equipment.
P241 Use explosion-proof electrical, ventilating, lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe mist, vapours, spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves / protective clothing / eye protection / face protection.
P281 Use personal protective equipment as required.

Response:
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 Do NOT induce vomiting.
P303+P361+P352 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Wash with plenty of soap and water.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
P362 Take off contaminated clothing and wash before reuse.
P370 In case of fire:
P378 Use normal foam, dry agent (carbon dioxide, dry chemical powder) to extinguish.
P391 Collect spillage.

Storage:
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:
P501 Dispose of contents and container in accordance with local, regional, national, international regulations.

Poisons Schedule (SUSMP): None allocated.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
n-Hexane	110-54-3	60-70%	H225 H361f H304 H373 H315 H336 H411
3-Methylpentane	96-14-0	18-22%	H225 H304 H315 H336 H411
Methylcyclopentane	96-37-7	8-16%	H225 H304 H315 H336
Other component(s)	-	to 100%	-

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

Inhalation:
Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

Skin Contact:
If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water and soap. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye Contact:
If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.

Ingestion:
Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Never give anything by the mouth to an unconscious patient. Get to a doctor or hospital quickly.

Indication of immediate medical attention and special treatment needed:
Treat symptomatically. Delayed pulmonary oedema may result.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Normal foam, dry agent (carbon dioxide, dry chemical powder).

Unsuitable Extinguishing Media:
Water jet.

Hazchem or Emergency Action Code: 3YE

Specific hazards arising from the chemical:
Highly flammable liquid. On burning will emit toxic fumes, including those of oxides of carbon Environmentally hazardous.

Special protective equipment and precautions for fire-fighters:
Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire. Keep containers cool with water spray. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion. Prevent run off of fire water to avoid contaminating waterways.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:
Shut off all possible sources of ignition. Clear area of all unprotected personnel. Shut off leak if possible without risk. Work up wind. Use water spray to disperse vapour. Do not allow container or product to get into drains, sewers, streams or ponds. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:
Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. Use non-sparking tools. After removal, flush contaminated area thoroughly with water. Collect contaminated rinse water, do not allow to reach sewage or effluent systems. Contaminated absorbent material may pose the same hazard as the spilled porduct.

7. HANDLING AND STORAGE

Precautions for safe handling:
Avoid skin and eye contact and breathing in vapour. Avoid contact during pregnancy. Use only in a well-ventilated area.
May form flammable vapour mixtures with air. Vapour may travel a considerable distance to source of ignition and flash back. All potential sources of ignition (open flames, pilot lights, furnaces, spark producing switches and electrical equipment etc) must be eliminated both in and near the work area. Do NOT smoke. Flameproof equipment is necessary in all areas where this chemical is being used. Nearby equipment must be earthed. Take precautionary measures against static discharges.
When using do not eat, drink or smoke. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities:
Store in a cool, dry, well ventilated place. Store below 30°C. Store away from sources of heat or ignition. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Hexane (n-Hexane): 8hr TWA = 72 mg/m^3 (20 ppm)
Hexane, other isomers: 8hr TWA = 1760 mg/m^3 (500 ppm), 15 min STEL = 3500 mg/m^3 (1000 ppm)

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls:
Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as Personal Protective Equipment (PPE):
The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, RESPIRATOR.

Wear overalls, safety glasses and impervious gloves. Use with adequate ventilation. If determined by a risk assessment an inhalation risk exists, wear an organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.
Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Colour:	Colourless
Odour:	Slight
Odour Threshold:	Not available
Solubility:	Immiscible with water.
Specific Gravity:	0.6603 - 0.7486 (relative density)
Relative Vapour Density (air=1):	2.9 - 3.0
Vapour Pressure (20 °C):	13.3 kPa @15.81°C
Flash Point (°C):	< -7
Flammability Limits (%):	1.1 - 8.35 (%V/V)
Autoignition Temperature (°C):	260 - 278
Melting Point/Range (°C):	Not available
Boiling Point/Range (°C):	63.3 - 71.8
Decomposition Point (°C):	Not available
pH:	Not available

10. STABILITY AND REACTIVITY

Reactivity: No information available.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions:	Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. Hazardous polymerisation will not occur.
Conditions to avoid:	Avoid exposure to heat, sources of ignition, and open flame.
Incompatible materials:	Incompatible with oxidising agents.
Hazardous decomposition products:	Oxides of carbon.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion:	Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central system depression (like those of drunkeness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs. Breathing in vomit may lead to aspiration pneumonia (inflammation of the lung).
Eye contact:	May be an eye irritant.
Skin contact:	Contact with skin will result in irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis.
Inhalation:	Material is irritant to the mucous membranes of the respiratory tract (airways). Breathing in vapour can result in headaches, dizziness, drowsiness, and possible nausea. Breathing in high concentrations can produce central nervous system depression, which can lead to loss of co-ordination, impaired judgement and if exposure is prolonged, unconsciousness.

Acute toxicity: No LD50 data available for the product. However, for the major constituent:
Oral LD50 (rat): 25000 mg/kg
Inhalation LC50 (rat): 48000 ppm/4h

Respiratory or skin sensitisation:	No information available.
Chronic effects:	
Mutagenicity:	No information available.
Carcinogenicity:	Not classified.
Reproductive toxicity:	Suspected of damaging fertility or the unborn child.
Specific Target Organ Toxicity (STOT) - single exposure:	May cause drowsiness and dizziness.
Specific Target Organ Toxicity (STOT) - repeated exposure:	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard:	May be fatal if swallowed and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Avoid contaminating waterways.

Persistence/degradability: No information available.

Bioaccumulative potential: This product shows a high bioaccumulation potential.
For n-hexane: Bioconcentration Factor (BCF): >10.

Mobility in soil: No information available.

Aquatic toxicity: Toxic to aquatic organisms. May cause long lasting harmful effects to aquatic life.

96hr LC50 (fish): 4 mg/L (for Hexane; Goldfish)

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations. Advise flammable nature.

14. TRANSPORT INFORMATION

Road and Rail Transport
Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

UN No:	1208
Transport Hazard Class:	3 Flammable Liquid
Packing Group:	II
Proper Shipping Name or Technical Name:	HEXANES
Hazchem or Emergency Action Code:	3YE

Marine Transport
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No:	1208
Transport Hazard Class:	3 Flammable Liquid
Packing Group:	II
Proper Shipping Name or Technical Name:	HEXANES
IMDG EMS Fire:	F-E
IMDG EMS Spill:	S-D
Marine Pollutant	Yes

Air Transport
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No:	1208
Transport Hazard Class:	3 Flammable Liquid

Packing Group: II
Proper Shipping Name or Technical Name: HEXANES

15. REGULATORY INFORMATION

Classification:
This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:
Flammable liquids - Category 2
Aspiration hazard - Category 1
Skin Irritation - Category 2
Specific target organ toxicity (single exposure) - Category 3
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Specific target organ toxicity (repeated exposure) - Category 2
Acute Aquatic Toxicity - Category 2
Chronic Aquatic Toxicity - Category 2

Hazard Statement(s):
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H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

Poisons Schedule (SUSMP): None allocated.

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Supplier Safety Data Sheet; 08/ 2014.

This safety data sheet has been prepared by Ixom Operations Pty Ltd Toxicology & SDS Services.

Reason(s) for Issue:
First Issue Primary SDS

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.