COSHH Assessment

1.0 COSHH ASSESSMENT.

Assessment Number	**GBC01**	**Date**	14/5/19
Task/Substance	Use of unleaded petrol in IC powered equipment (eg Outboard engine)		
Site	Gairloch Boat Club		
Location in Site	Clubhouse, Safety boat, boat park		
Assessed by	A Swift	**Signed**	
Approved by		**Signed**	
Client (If Required)		**Signed**	

Likelihood of Harm (L)	**Insignificant (1)** (Very small injuries)	**Minor (2)** (Small/minor injuries)	**Serious (3)** (Unfit >3 days)	**Major (4)** (Death, major injury)
Very Likely (5) (Expected to occur)				
Likely (4) (Reasonably expected)				
Occasional (3) (Occur infrequently)				
Unlikely (2) (Unexpected to occur)				
Negligible (1) (Not expected to occur)				
Risk Rating (LxC)	**Low (1-4) Tolerable**	**Medium (5-11) Intolerable**	**High (12-20) Intolerable**	

1.1 Substance Hazards (Gross Risk).

Can the Substance be Substituted for Something Safer?	**No**	**If YES, Then What?**	

Note - If a safer substance is available then the safer alternative should be used instead

Step 1		**Step 2**						**Step 3**					
Identify the substances		**Note - Remember to take into account the way in which the substance will be used and its dilution when assessing the gross risk**						**RISK RATING = Likelihood x Consequence**					
Substance		**Physical Nature of Substance i.e. Liquid?**	**How will Substance be Used or Applied?**	**Who may be Harmed?**	**Route of Contact? ie Inhalation, Dermal**	**How Long will the Person(s) be Exposed?**		**Initial (Gross) Risk Rating**					
1.	Unleaded petrol	Clear/ yellowish liquid	Used as fuel to power internal combustion powered equipment/ machines.	Operative/3rd parties	Dermal, Eye contact inhalation	0.1	**Hours**	**Low**		**Med**		**High**	✔
2.	Petroleum vapour	Clear pungent vapours	As byproduct of handling/ decanting petrol	Operative/ 3rd parties	Inhalation	0.1	**Hours**	**Low**		**Med**		**High**	✔

Note - If the gross risk rating is already "Low" and the hazard controls already in place will be maintained during the task, no additional or temporary controls may be necessary

1.2 Physical Hazards (Gross Risk).

Step 1		Step 2		Step 3					
HAZARD – Something with the potential to cause harm		Note - Remember to take into account the controls which are already in place when assessing the gross risk		RISK RATING = Likelihood x Consequence					
Physical Hazards		Who/What Might Be Harmed	How Might They Be Harmed	Initial (Gross) Risk Rating					
1.	Risk of explosion- and fire	Operatives, third parties	Petrol and its associated vapours are extremely volatile and flammable. An explosive mixture of petrol vapour and air is extremely dangerous.	Low		Med		High	✔
2.	Slips and trips	Operatives and third parties	Musculoskeletal injury through slipping on spilt petrol.	Low		Med		High	✔
3.	Asphyxiation	Operatives and third parties	Petrol vapours can displace oxygen in poorly ventilated spaces.	Low		Med		High	✔
Note - If the gross risk rating is already "Low" and the hazard controls already in place will be maintained during the task, no additional or temporary controls may be necessary									

1.3 Substance Hazards (Net Risk).

Precautions To Further Reduce Risks (As far as reasonably practicable). Substances with the following risk phrases are to have exposure minimised as far as PRACTICABLE - R42, R43, R45, R46 & R49										
Substance		Risk Phrase/WEL	Control Measures i.e. Enclosure, Ventilation, Dilution etc	Health Monitoring?	Net Risk (After Implementation of Controls)					
1.	benzene	R11,R45, R46, R48/23/24/25, R65, R36/38 1PPM (8 hr TWA)	Store product in a sealed vapour tight container designed specifically for petrol. No more than 60 litres of petrol should be stored on a site . Open , decant and fill in well ventilated areas well away from any sources of ignition. Remove petrol tank from safety boat before filling. Exclude third parties from area Avoid contact with skin and avoid splashes into eyes . Ensure that all equipment and containers using or containing petrol are inspected for leaks regularly. Ensure that quantity of petrol stored is minimised and that it is stored in a suitable secured container. In the event of spillage allow product to evaporate off and prevent access to downwind areas. Do not allow spillage into water or watercourses. Wash hands immediately after working with petrol product.	NA for infrequent contact	Low	✔	Med		High	
2.	N-hexane	R11, R38, R48/20, R62, R65, R67, R51/53 20PPM (8hr TWA)			Low	✔	Med		High	
3.	Toluene	R11, R48/20, R65, R48, R38, R67, R63 50PPM (8hr TWA)			Low	✔	Med		High	
4.	Gasoline	R12, R45, R46, R63, R38, R65, R67, R51/53			Low	✔	Med		High	

R-phrases

R11 – Highly flammable.
R12 – Extremely flammable.
R38 – Irritating to skin.
R45 – May cause cancer.
R46 – May cause heritable genetic damage.
R48 – Danger of serious damage to health by prolonged exposure.
R62 – Possible risk of impaired fertility.
R63 – Possible risk of harm to the unborn child.
R65 – Harmful: may cause lung damage if swallowed.
R66 – Repeated exposure may cause skin dryness or cracking.
R67 – Vapours may cause drowsiness and dizziness.
R 36/38 – Irritating to eyes and skin.
R 48/20 – Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R 48/23 – Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R 48/23/25 – Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

1.4 Physical Hazards (Net Risk).

The controls specified below are to be implemented during the task by the people undertaking it to further reduce the gross risks (As far as is reasonably practicable)									
Physical Hazards		**Further Control Measures (Precedence to be given to engineering methods)**	**Net Risk (After Implementation of Controls)**						
1.	Risk of explosion- and fire	Ensure that petrol is handled, decanted and filled ONLY in well ventilated space with no sources of ignition.	**Low**	✔	**Med**		**High**		
2.	Slips and trips	Ensure that any spills are marked, isolated and cleared up promptly	**Low**	✔	**Med**		**High**		
3.	Asphyxiation	Ensure that petrol is only handled, decanted or filled in a well ventilated space.	**Low**	✔	**Med**		**High**		
4.			**Low**		**Med**		**High**		

PPE, Equipment etc Required to Further Control Residual Risks	**Competence and Supervision**

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	Substance/Hazards	PPE/Equipment Required		
1.	Petrol- skin contact.  	Use disposable Vinyl/ nitrile gloves to BS EN 374 with a minimum breakthrough time of 360 minutes when handling, decanting or filling petrol. Use full leg and arm cover protective clothing. If frequent handling of petrol is likely then a chemical resistant overall or apron should be used.		The people carrying out the works must be competent by means of training knowledge and experience to safely carry out all aspects. Supervision of the work is essential to ensure safe working practices have been adopted. If the people carrying out the works are unsure of their ability to safely perform the task in hand or if they encounter unexpected hazards, they must make the area or equipment safe, stop work and seek advice from their line manager before restarting work.
2.	Petrol- eye contact 	Use eye protection to BS EN 166 when decanting, handling or filling containers with petrol.		
3.				

Note – Remember to attach the substance Manufacturer's Material Safety Data Sheet (MSDS) to this assessment

2.0 Method Statement.

Step	Safe Sequence of Work
1.	Store petrol in proprietary flammables storage cupboard and minimise the amount held on site to a basic minimum. **Maximum to be stored on site is 60 litres**
2.	Only decant into work equipment that is cool – never hot
3.	Ban all combustibles from the decant area
4.	Never store petrol adjacent to or on a combustible material
5.	Only decant petrol outside where these is sufficient ventilation. Minimise the amount of time spent in contact with petrol, never breath fumes
6.	Where petrol is used or stored always provide a fire extinguisher of the correct type in the immediate vicinity
7.	Exclude third parties from area while handling petrol.
8.	
9.	
10.	
11.	
12.	

3.0 First Aid Directions.

No	Directions
1.	Ingestion- Wash mouth out with water. Get medical advice immediately. Do not induce vomiting due to risk of aspiration.
2.	Skin contact- Wash skin as soon as possible with soap and water. Change contaminated clothing and launder before use. Get medical advice. Any injection of fuel under the skin should be considered an emergency- get medical advice URGENTLY
3.	Eye contact- Wash out thoroughly with large amounts of water, for at least 15 minutes. If redness and/or irritation continues get medical advice.
4.	Inhalation – In case of exposure to intense concentrations of vapours, fumes or spray move to fresh air and allow to rest. Seek medical attention immediately

4.0 Record of Review.

Review Date	Reviewed by	Comments/Changes	Signed
09.02.2023	A Swift	None	A Swift

SAFETY DATA SHEET

Product Revision 05	**GB Unleaded Petrol** **GB Super Unleaded Petrol**	page 1 of 6 Date Sept. 2008

1 Identification of the Substance/Preparation and Company

Supplier GB Fuels
Address Albany Road, Gateshead
Tyne & Wear NE8 3BP

Contact Numbers Telephone: 0191-4904311
Fax: 0191-4904329

Emergency Telephone No. 0191-4775000

Product Name: GB Unleaded/Super Unleaded Petrol
Application: To be used exclusively as fuel for spark ignition engines

2 Composition/Information on Ingredients

Chemical nature: Substances composed of paraffin hydrocarbons, Naphthalene (=<35%) and olefin hydrocarbons (=<18%), with mainly hydrocarbons from C4-C12, including benzene, toluene & n-hexane.
Possibly: The following oxygenates compounds: Methanol =< 3% vol. Iso-propyl alcohol =<10% Isobutyl alcohol =<10% vol. Terbutyl alcohol =<7% vol. Ethers (5 or more C atoms) including ETBE/MTBE =<15% vol. –multi-purpose additives to boost performance.

Composition comments	Classification	Concentration
Benzene	F, T :R11,45,46, R48/23/24/25, 65, 36/38	=<1% in volume
N-hexane	F,Xn,N:R11-R38,48/20,62,65,67,51/53	<5% in volume
Toluene	Xn,Xi Rep. Cat 3 R11,48/20,65,48,38,67,63	<10%

Dangerous ingredients	Classification	Content	CAS No.	EC No.
Gasoline	T,F,N:R12,45,46,63,38,65,67,51/53	>90%	86290-81-5	289-220-8

3 Hazards Identification

Health Hazards:

Eyes: Likely to cause irritation if splashed into the eye with redness and stinging.

Skin: May cause irritation on brief or occasional contact; prolonged, repeated and heavy direct contact with the skin over a long period of time can cause defatting of the skin erythema, dermatitis, oil acne.

Inhalation: inhalation of fumes or vapours may have a narcotic effect on the nervous system may cause headaches, nausea, drowsiness and irritation to the breathing passages and lungs with possible effects to the central nervous system. As gasoline contains Benzene which is a known carcinogen continuous exposure to high levels of vapours may be toxic and in extreme cases may cause Leukaemia.

Ingestion: Likely to cause nausea and diarrhoea if small amounts are swallowed, larger amounts may effect the central nervous system. Signs and symptoms of central nervous system effects may include the following; headaches, dizziness, loss of appetite, weakness and loss of concentration. The product may be harmful due to the aspiration of the liquid into the lungs following ingestion which may cause chemical pneumonitis and can be fatal.

Extremely flammable liquid which is highly volatile and may form flammable or explosive vapour/air mixtures from uncontrolled releases.
This product is classified as Extremely flammable, Carcinogenic, Harmful & irritating and dangerous for the environment.

4 First Aid Measures

Ingestion: Wash mouth out with water. Get medical advice immediately.
DO NOT INDUCE VOMITING BECAUSE OF THE DANGER OF ASPIRATION.

Skin: Wash skin as soon as possible with soap and water. Change contaminated clothing and launder before reuse. Get medical advice.
Any injection of fuel under the skin should be considered an EMERGENCY – get Medical Advice URGENTLY.

Eyes: Wash out thoroughly with large amounts of water, for at least 15 minutes. If redness and/or irritation continues get medical advice.

Inhalation: In case of exposure to intense concentrations of vapours, fumes or spray move to fresh air. and allow to rest, seek medical attention immediately.

5 Fire Fighting Measures

Extinguishers: Foam, dry chemical powder, carbon dioxide, water spray

Hazards: Extremely flammable, high hazard. The liquid can release vapours at temperatures below ambient which form flammable mixtures. Vapours settle to ground level and may reach ignition sources remote from the point of escape via drains and other underground passages. Static discharge material can accumulate static charges which may cause an incendiary electrical discharge.

Measures: Use water fog or spray to cool fire exposed surfaces (containers) and to protect personnel. Only personnel trained in fire fighting should use water sprays (DO NOT USE WATER JETS). Respiratory and eye protection is essential for fire-fighting personnel exposed to smoke and fumes.

Hazardous decomposition products include smoke, sulphur oxides and carbon monoxide.

6 Accidental Release Measures

Treat any spillage as a fire hazard. Spray, vapour or mist can be a potential fire or explosion hazard.

Personal Precautions: Spilt product presents a significant slip hazard. Avoid exposure of the product to sources of ignition. Chemical grade safety Glasses/goggles. nitrile/PVC gloves and protective coveralls should be worn when dealing with any spill. Where ventilation is inadequate wear suitable breathing apparatus.

Environmental Precautions: Prevent entry into drains, sewers and water courses. The appropriate authorities should be notified if it has contaminated soil/vegetation. Spillages occurring on water should be removed from the surface using suitable absorbents. If necessary dispose of absorbed residues as described in section 13. All sources of ignition must be eliminated immediately.

Decontamination Procedures: Soak up with inert absorbent or contain and remove by pumping or best available means. Ensure explosion-proof equipment is used. In case of spillage on water contain by a boom and collect by skimming or absorption.

7 Handling and Storage

The design and operation of bulk storage and fuel systems must comply with national legislation and recognised codes of practice. In smaller quantities containers such as drums should be stored in cool, well ventilated surroundings, away from all sources of ignition. Electrical equipment and fittings must comply with local fire prevention regulations for this class of flammable product.
Store at room Temperature away from moisture, heat or any ignition sources.
DO NOT SMOKE
AVOID INHALATION OF VAPOURS
AVOID CONTACT WITH THE SKIN OR MUCOUS MEMBRANES
DO NOT USE MOBILE PHONES DURING HANDLING

Keep the product away from food and beverages.
Prevent the formation of vapours, mist and aerosols.
Wear safety shoes and fully covering protective clothing GENERATING NO STATIC ELECTRICITY.
Never weld, drill, grind or saw any empty containers
Avoid repeated contact with the skin as this may cause skin conditions, which may also be aggravated by Contact with soiled clothing.
Avoid contact with oxidisers. Remove any contaminated clothing immediately and launder before re-use.

Always use the correct grounding procedure. Store and handle in closed or properly vented containers.
Ensure compliance with statutory requirements for storage and handling. Regularly check for and prevent potential leaks from containers. Installations should be designed to avoid pollution of soil and water.
Use only containers, joints pipes etc. made of material which is suitable for use with aromatic hydrocarbons.

8 Exposure Control/Personal Protection

If frequent or continuous contact is likely PROTECTIVE CLOTHING should be worn. A chemical resistant overall or apron, impervious gloves and eye protection.

Any electrically operated ventilation equipment must be BASEEFA, UL or approved for use in potentially Explosive atmospheres

Workplace Exposure limits:	**8 hour TWA**	**Source**
Benzene	1ppm	EH/40 2005 (amendment 2007)
n-Hexane	20ppm	EH/40 2005 (" " ")

Hand and skin protection - Hand and skin protection recommended at all times. Where exposure is likely protective clothing must be worn, including nitrile/PVC or neoprene gloves approved to BS EN 374 with a breakthrough time of >360 minutes.
Eye protection - Eye protection approved to BS EN 166 is recommended at all times.

9 Physical and Chemical Properties

Typical properties:

Appearance	Clear pale yellow liquid
Odour	Pungent petroleum odour
pH	Not applicable
Boiling Range °C	25-215
Flash Point (TAGC) °C	< -40
Flammability Limits % vol	1.4 – 8.7
Auto ignition temperature °C	>300
Density at 15°C	720-770 Kg/m3
Solubility - water	Very low (0.01 g/l)
Viscosity cSt @ 20°C	0.5 – 0.75
Vapour density (relative to air)	3-4 (air=1

10 Stability and Reactivity

This product is stable under normal operating conditions.

Conditions to avoid: Sources of ignition, elevated temperatures, water.

Materials to avoid: Strong oxidising agents such as chlorates, nitrates and peroxides.

No hazardous decomposition products will be evolved at ambient temperatures. However, incomplete Combustion and thermolysis produces potentially toxic gases such as, carbon monoxide, carbon dioxide, Various hydrocarbons, aldehydes and soot.

11 Toxicological Information

Health effects:

Eyes: Slightly irritating but does not damage eye tissue

Skin: Prolonged or repeated exposure may lead to defatting of the skin, erythema, dermatitis or oil acne. Irritation, but a low order of toxicity.

Inhalation: Contains Benzene and complex hydrocarbons. Repeated or prolonged exposure to high levels of Bezene can be toxic and in extreme cases can lead to leukaemia. Any risks will be negligible under normal conditions provided all recommended hygiene precautions are followed. This product can be harmful due to aspiration of liquid into lungs following ingestion which may cause chemical pneumonitis and can be fatal.

Ingestion: Low order of acute/systemic toxicity.
Chronic: The long term toxicity evaluation for this product is based on testing results from similar atmospheric petroleum distillates.

Acute: Based on animal testing data from similar products, the acute toxicity is expected to be:

ORAL	(rat)	LD50	>5000mg/Kg (slightly toxic)
INHALATION	(rat)	LD50	>2500mg/Kg (moderately toxic)
DERMAL	(rabbit)	LD50	>2000 mg/Kg (moderately toxic)

12 Ecological Information

This product is classified as dangerous for the environment. On release to water gasoline (petrol) floats and Hydrocarbons are lost through volatilization. Toxic to fish and invertebrates.

Ecotoxicity:	Some components of gasoline are water soluble, and harmful to aquatic organisms. Acute aquatic toxicities of gasoline are in the range 1-10 mg.l
Mobility:	Mobile in soil and may contaminate groundwater. The product evaporates in the air and dissipates more or less depending Upon local conditions. However, it may stagnate in pools in low lying Areas, in an undisturbed or confined atmosphere.
Degradability:	Rapid removal of gasoline from the environment result from a combination Of evaporation, physical partitioning with flowing water and degradation. Volatile components are phyto-degraded in air by reaction with hydroxyl radicals.
Bioaccumulation Potential:	From the known properties of the hydrocarbon components, gasolines are expected to be inherently biodegradable.

13 Disposal Considerations

Place contaminated materials/packaging in suitable containers and dispose of according to the appropriate Regulations for Hazardous/Special waste. Always use a licensed disposal company. Take care as "empty" May contain flammable or explosive vapours.

14 Transport Information

Symbol: Flammable Liquid 3 Y E
Shipping name ; Gasoline unleaded
UN: Flammable liquid packaging group II
UN Number (Substance Identification Number): 1203
IMO Hazard Class: 3.1
ICAO Hazard Class: 3 IATA Hazard Class 3
ADR/RID Hazard Class: 3.1

15 Regulatory Information

Labelling:
Symbol(s): Skull & crossbones on orange background,
Dead Fish and Tree (n)
Flames on orange backround

Classification: Toxic, Extremely flammable, Dangerous for the environment
Extremely flammable
May cause cancer
Harmful may cause lung damage if swallowed.
Irritating to skin
Vapours may cause drowsiness and dizziness
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
If Swallowed do not induce vomiting, seek medical advice.
Do not breath vapour
Keep away from sources of ignition – No smoking
Wear suitable clothing and gloves
Avoid contact with skin
Avoid release to the environment. Refer to special instructions/Safety data Sheet

16 Other information

The data and advice given apply when the product is sold for the stated application or applications. The product is not sold as suitable for any other application. Use of the product for any applications other than that as stated in this sheet may give rise to risks not mentioned in this sheet. You should not use the product other than for the stated application or applications without seeking advice from us.
If you have purchased the product for supply to a third party for use at work, it is your duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet.
If you are an employer, it is your duty to inform your employees and others who may be affected by any of the hazards described in this sheet and of any precautions which should be taken.

Approved Code of Practice: Waste Management Duty of Care.

Risk Phrases Full Text:
R12 Extremely flammable
R45 May cause cancer
R65 Harmful may cause lung damage if swallowed.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R38 Irritating to skin
R46 May cause heritable genetic damage
R63 Possible risk of harm to the unborn child
R67 Vapours may cause drowsiness and dizziness

Guidance:

Prevention of Dermatitis at work (INDG-233)
Assessing and Managing risks at work from skin exposed to Chemical agents (HSG 205).
Occupational Exposure Limits (EH40)
Effects of Mineral Oil on the Skin—Cautionary Notice.

The above are available from HMSO and HSE sources.

EU Directives

Hazardous preparation Directive 1999/45/EC modified (Directive2001/60/EC) D. 67/548/EC Modified by D. 2004/73/EC (29thATP)

All reasonable care has been taken to ensure that the information in this publication is accurate at the time of printing. However, although certain hazards may be described we cannot predict all hazards that may exist whilst using the product in a workplace.
This MSDS should be used as a component of a risk assessment which is the responsibility of the user of the product to prepare and record before use.

MSDS - G & B 004