

M S D S

Material Safety Data Sheet

SECTION 1 - PRODUCT IDENTIFICATION AND USE

Product Identifier: **HEATSAVR**
Product Use: Swimming pools, Spas
Manufacturer's Name: Flexible Solutions Ltd.
Street Address: 2614 Queenswood Drive
City, Province: Victoria, B.C.
Postal Code: V8N 1X5
Country: Canada
Telephone #: (250) 477 9969
24 Hour CANUTEC Emergency: (613) 996 6666 Regarding IPA exposure

SECTION 2 - HAZARDOUS INGREDIENTS

Component	Exposure Limits, PPM			
	OSHA %	ACGIH PEL	Other TLV	Limit
Hazard ISOPROPYL ALCOHOL ¹⁾ flammable	80-90	400	400	500

CAS No. 67-63-0 VW&R Code: P1238

¹⁾ Common names/Synonyms: isopropanol; 2-Propanol; Dimethyl Carbinol; IPA

SECTION 3 - PHYSICAL DATA

Boiling Point, Deg F:	181	Vapor Pressure, mmHG/20 Deg C:	23
Melting Point, Deg F:	-127	Vapor Density:	2.07 (air = 1)
Specific Gravity:	0.79 (water = 1)	Water Solubility, %:	100
Appearance/Odor:	Clear, colorless liquid medical alcoholic odor	Evaporation Rate:	3 (Butyl Acetate = 1)

SECTION 4 - FIRE AND EXPLOSION DATA

Flash Point, Deg F: 53
Flammable limits in air, %: lower 2%; upper 12%
Method used: TCC
Extinguishing Media: Use water spray, dry chemical, CO₂, or alcoholic foam.
Do **NOT** use a direct water stream.
Special fire fighting procedures: Fire fighters should wear self-contained breathing apparatus and full protective clothing. Use water spray to cool nearby containers and structures exposed to fire.
Unusual fire and explosion hazards: Extinguish all nearby sources of ignition because vapors may be moved by air currents to ignition sources distant from the handling point.

SECTION 5 - REACTIVITY DATA

Stability: stable

Polymerization: will not occur
Conditions to avoid: Strong oxidizers, aluminum, acetaldehyde, ethylene oxide, hydrogen-palladium combination, h₂O - h₂SO₄ combination, Hypochlorous acid, isocyanates, nitroform, phosgene, oleum, perchloric acid, potassium T-butoxide, acids, alkalis, amines, halogens, halogen compounds, anhydrides and aldehydes.
Hazardous decomposition products: May liberate carbon monoxide or carbon dioxide.

SECTION 6 - TOXICOLOGICAL PROPERTIES

Oral: Rat LD50 = 5840mg/kg
Human lethal dose: 250ml
Dermal: Rabbit LD = 13g/kg
Inhalation: Rat LC = 16,000 ppm/8hr
Carcinogenicity: This material is not considered to be carcinogen by national toxicology program, the international agency for research on cancer, or the occupational safety and health administration.
Other data: none

SECTION 7 - PREVENTATIVE MEASURES

Ventilation: Local mechanical exhaust ventilation capable of maintaining emissions at the point of use below the pel.
Respiratory protection: If use conditions generate vapors or mists, wear a Niosh-approved respirator appropriate for those emission levels. Appropriate respirators may be full facepiece or a half mask air purifying cartridge respirator equipped for organic vapors/mists, a self-contained breathing apparatus in the pressure demand mode, or a supplied-air respirator.
Eye protection: Chemical goggles unless a full facepiece respirator is also worn. It is generally recognized that contact lenses should be not worn when working with chemicals because contact lenses may contribute to the severity of an eye injury.
Protective clothing: Long-sleeved shirt, trousers, safety shoes, rubber gloves and rubber apron.
Other protective measures: An eyewash and safety shower should be nearby and ready for use.

SECTION 8 - FIRST AID MEASURES

If inhaled: Remove to fresh air. Give artificial respiration if not breathing. Get immediate medical attention.
In case of eye contact: Immediately flush eyes with lots of running water for 15 minutes, lifting the upper and lower eyelids occasionally. Get immediate medical attention.
In case of skin contact: Immediately wash skin with lots of soap and water. Remove contaminated clothing and shoes (wash before reuse). Get medical attention if irritation persists after washing.
If swallowed: Do not induce vomiting. Small amounts of this liquid drawn into the lungs from swallowing or vomiting may cause severe health effects (eg. bronchopneumonia or pulmonary edema). Seek medical attention immediately.

SECTION 9 - PREPARATION DATE OF MSDS

Prepared by: Flexible Solutions Ltd.
Phone Number: (250) 477 9969
Date: 01/2004

NOTICE TO READER

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exists.