MATERIAL SAFETY DATA SHEET

MAXPOWER F1

Section 1. Chemical product and company identification

Trade Name	:	MAXPOWER F1
Manufacturer	:	SEBRING COMPANY LIMITED 1866 Patanakan Road, Suanluang, Bangkok 10250 Tel: +66 2 720 4441 Fax: +66 2 720 4440
Emergency contact	:	+66 81 811 2557

Section 2. Composition, Information on Ingredients

Name	CAS number	% by weight
No hazardous ingredients		

Additional information

Contains:	CAS number
Urea ammonium nitrate	157978-77-5
Water	7732-18-5

Section 3. Hazards Identification

Physical State	:	Translucent Green Liquid (Clear)
Emergency overview	:	Caution! MAY BE HARMFUL IF SWALLOWED. Do not ingest. Wash thoroughly after handling.

Potential acute health effects

Eyes	:	Slightly irritating to the eyes.
Skin	:	Slightly irritating to the skin.
Inhalation	:	Slightly irritating to the respiratory system.
Ingestion	:	Harmful if swallowed.
Carcinogenic effects	:	No known significant effects or critical hazards.
Mutagenic effects	:	No known significant effects or critical hazards.
Reproduction toxicity	:	No known significant effects or critical hazards.

See Toxicological Information (section 11)

Section 4. First Aid Measures

Eye contact : Immediately flush eyes with water for at least 15 minutes, occasionally lifting and lowering the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Skin Contact : Wash skin thoroughly with soap and water or use recognized skin cleanser. Get medical attention if irritation occurs. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation : Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if symptoms occur. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion : Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 5. Fire fighting measures

Flammability of the Product : May be combustible at high temperature.

Products of combustion : These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2, etc.), ammonia (NH3).

Fire fighting media and instructions

: Use water on in flooding quantities. Do NOT use chemical extinguisher or foam or Attempt to smother the fire with steam or sand. Do not release runoff from the fire to sewers or waterways.

Special protective equipment for fire-fighters

: Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special remarks on fire hazards

: The product itself is not combustible but it can support combustion, even in the absence of air

Section 6. Accidental release measures

Personal precautions : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Method of Cleaning up : If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

Section 7. Handling and storage

Handling Procedures and Equipment

: Wash thoroughly after handling. This product is mildly corrosive to carbon steel; avoid use of this material, unless the solution has been treated with an inhibitor.

Storage : Store in a cool, well-ventilated area away from combustible materials. Store below 100°C and above the freezing temperature, as this will cause crystallization of the product.

Section 8. Exposure Controls, Personal Protection

Engineering Controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protection Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mist, gases or dusts. Recommended: splash goggles.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. <8 hour(s) (breakthrough time): butyl rubber, natural rubber (latex), nitrile rubber.

Personal protective Equipment (Pictograms)

:

Personal Protection In case of a large spill

: Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be adequate. Consult a specialist before handling this product.

Section 9. Physical and chemical properties

Physical State	:	Liquid
Appearance and Odor	:	Translucent Green
Odor Threshold	:	Little to no detectable ammonia odor
Boiling Point	:	Not Available
Freezing Point	:	Not Available
Vapor pressure	:	Not Available
Density	:	1,300 kg/m^3
Molecular Weight	:	Not Applicable
Coefficient	:	Not Available
Water Solubility	:	Soluble in Water in all Concentrations
pH	:	6.7

Section 10. Stability and reactivity

Stability : Stable

Incompatibility (Materials to Avoid)

: It is corrosive to carbon steel unless inhibited.

Hazardous products of decomposition

: Decomposes to ammonia gas and nitrogen oxides.

Section 11. Toxicological information

Toxicological data is scarce for this solution. Below is the toxicological information available for this product and for ammonium nitrate and urea.

Ammonium Nitrate

Toxicological Data (Acute, 4hr)	:	LC_{50} (rat, inhalation): >88.8 mg/L
Toxicological Data (Repeated Dose)	:	NOAEL (rat, 2 week, inhalation): 185 mg/m^3 NOAEL (rat, 4 week, inhalation): 1 mg/m^3

Urea:

Toxicological Data	:	LD_{50} (oral, rat): 14300-15000 mg/kg
(Acute) LD_{50} (oral, mouse)	:	11500-13000 mg/kg
Toxicological Data (Chronic)	:	NOAEL (oral, mouse): 6750 mg/kg NOAEL (oral, rat): 2250 mg/kg (NOAEL: No Observable Adverse Effect Level)
Carcinogenicity Data	:	No information is available.
Reproductive Effects	:	No information is available.
Mutagenicity Data	:	No information is available.
Teratogenicity Data	:	No information is available.

EFFECTS OF EXPOSURE WHEN:

In Contact with Eyes	:	Contact may cause minor irritation to the eyes.
Inhaled	:	Prolonged exposure may cause respiratory irritation.
In Contact with Skin	:	May cause skin irritation.
Ingestion	:	May cause irritation and burning in the mouth and throat. No other information is available.

Section 12. Ecological information

Should be kept below 10 mg/L in drinking water, therefore is drinking water is contaminated, the proper authorities should be notified.

Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Consult your local or regional authorities

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
TDG Classification	Not regulated	-	-	-	-	-
DOT Classification	Not regulated	-	-	-	-	-

Section 15. Regulatory Information

Regulations : This product is not listed on the Environmental Protection Act domestic substances list. This product is not regulated by Transportation of Dangerous Goods or WHMIS.

Section 16. Other Information

Additional Information and Sources Used:

1. **RTECS – Registry of Toxic Effect of Chemical Substances,** On-line search, Canadian Center for Occupational Health & Safety, RTECS database, Vol. 1-V, 1985-1986 edition, Doris V. Seet, Ed., National Institute for Occupational Safety & Health, U.S. Dept. for Health and Services, Cincinnati, 1987.
2. Sax, N. Irving, **Dangerous Properties of Industrial Material,** 10th Ed., John Wiley & Sons, Inc., New York, 2000.
3. O'Neil, Maryadele J., Ed., **The Merck Index, 13th ed.**, Merck and Co. Inc., Whitehouse Station, New Jersey, 2001.

NOTICE

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.