

## 1. Product and Supplier Information



Line of products name: **AERO GEN2**  
 Product code: XX% Methanol YY% Nitromethane ZZ% Lube oil

Product Name	Product Code	Color
5% Aero Gen2 Standard	790516	Pink
5% Aero Gen2 Premium 18	770518	Pink
5% Aero Gen2 Traditional	750520	Pink
10% Aero Gen2 Standard	741016	Pink
10% Aero Gen2 4-Cycle	741016	Pink
10% Aero Gen2 Premium Sport	741016	Pink
10% Aero Gen2 Premium 18	721018	Pink
10% Aero Gen2 Traditional	701020	Pink
15% Aero Gen2 Standard	691516	Pink
15% Aero Gen2 Premium Sport	691516	Pink
15% Aero 4-Cycle	691516	Pink
15% Aero Premium 18	671518	Pink
15% Aero Gen2 Traditional	651520	Pink
20% Aero Gen2 Premium YS	602020	Blue
20% Aero Gen2 Premium 1/2A	592516	Pink

Product contains: Methanol, nitromethane and synthetic and castor oil lubricants.

Chemical Family or Formula: Methyl Alcohol C H3OH FW= 32.04; Nitromethane H3CNO2 FW 61.04

Purpose: Fuel for model cars, boats, airplanes, and the like Publication Date:

Supplier: **Byron Originals, Inc.**  
**PO Box 279, 119 E. Hwy. 175**  
**Ida Grove, IA 51445**

Phone: 712-364-3165  
 Fax: 712-364-2028  
 email: info@byronoriginalsinc.com  
 Web page: www.byronfuels.com

Product Information: 712-364-3165  
 Transportation Emergency: 800-424-9300 for spills only (Chemtrec)  
 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)  
 Poison Control Center: 800-222-1222

## 2. Hazards Identification

Emergency overview:

### OSHA Hazards

Flammable liquid, Target organ effect, Toxic by inhalation, Toxic by ingestion, Toxic by skin absorption, Carcinogen

### Target organs:

Eyes, Kidney, Liver, Central nervous system.

### GHS Classification:

Flammable liquid Category 2  
 Acute toxicity, Oral Category 3  
 Acute toxicity, Inhalation Category 3  
 Acute toxicity, Dermal Category 3  
 Specific target organ toxicity- single exposure Category 1  
 Acute aquatic toxicity Category 3

### GHS label elements, including precautionary statements:

Pictogram



Signal word: **Danger**

### Hazard statements:

H225 Highly flammable liquid and vapor  
 H331 Toxic if inhaled  
 H311 Toxic in contact with skin  
 H301 Toxic if swallowed  
 H402 Harmful to aquatic life

## 2. Hazards Identification (continued)

### Precautionary statements:

P102 Keep out of reach of children

P210 Keep away from heat/sparks/open flames, hot surfaces. No smoking.

P233 Keep container tightly closed

P260 Do not breathe dust/fume/gas/mist/vapors/spray

P280 Wear protective gloves/protective clothing/eye protection/face protection

P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

### Hazard Category Classifications and Ratings

Hazard Categories:	Health	Fire	Pressure	Reactivity	Reference 49 CFR 171.8, OSHA 29 CFR 1910.1200 and SARA 302/311/312/313.
Immediate	Yes	Yes	No	Yes	
Delayed	Yes	No	No	No	
HMIS Hazard Ratings: Health 2 Fire 3 Instability 0 Other B (Goggles, gloves)					
NFPA 704 Hazard Ratings: Health 2 Flammability 3 Reactivity 0 Special NA					
Hazard Ratings: Least: 0 Slight: 1 Moderate: 2 High: 3 Extreme: 4					

### Potential Health effects:

**Inhalation** Harmful or toxic if inhaled. Causes respiratory tract irritation.

**Skin** Harmful or toxic in contact with skin. Causes skin irritation.

**Eyes** Causes eye irritation.

**Ingestion** Harmful or toxic if swallowed.

## 3. Composition and Information on Ingredients

CAS #	SARA		Material or Component	Range %	Exposure limits ACGIH	
	313	dm			TWA*	STEL*
67-56-1	Yes	1	Methanol A4, BEI EINECS 200-659-6	59%- 79%	200 ppm	250 ppm
75-52-5	No	NA	Nitromethane A3 EINECS 200-876-6	5% - 25%	20 ppm	NE
NA	No	NA	Synthetic and Castor Oil Lubricants	16% · 20%	NE	NE

A3= Confirmed Animal carcinogen with Unknown Relevance to Humans A4= Not Classifiable as a Human Carcinogen

BEI= Biological Exposure Limit exists for this material NA= Not applicable NE= Not Established

No component is listed in "Threshold and Biological Exposure Indices for 2014" from ACGIH except as noted above.

Components listed in Title III Sec. 313 (EPCRA) are indicated by "Yes" above.

\*TWA= Time Weighted Average; STEL= Short Term Exposure L Reportable Quantity (40 CFR 302.4):

## 4. First Aid

**General advice:** Consult a physician. Show this safety data sheet to the attending doctor.

Move out of the dangerous area to safety.

**Inhalation:** Remove individual to fresh air. If not breathing, give artificial respiration or oxygen as appropriate. Seek medical attention if breathing becomes difficult. Vapors may irritate breathing passages.

**Skin Contact:** Flush skin with water for 15 minutes and remove contaminated clothing. Wash shoes and clothing before reuse. Extended or repeated contact can defat and irritate skin.

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids apart.

**Ingestion:** Seek immediate medical attention. Induce vomiting only as directed by physician. Drink water to dilute.

Never give anything by mouth to an unconscious person.

### Note to physician:

When plasma methanol concentrations are higher than 20 mg/deciliter, when ingested doses are greater than 30 milliliters, and when there is evidence of acidosis or visual abnormalities, a 10% solution of ethanol in 5% aqueous dextrose, administered intravenously, is a safe, effective antidote. (WJ of M, Mar 1985, p 337)

## 5. Fire Fighting Measures

**Flammability Summary (OSHA):** No data on combinations. Component data given below.

Extremely flammable.

<b>Flammable Properties:</b>	<b>Product</b>	<b>Methanol</b>	<b>Nitromethane</b>
Flash Point:	<73.4°F (23°C) TCC	52°F (11°C)	97°F (36°C) TCC
Autoignition Temperature:	No data	464°C	418°C
Upper Flammable/Explosive Limit, % in air:	No data	36%	62%
Lower Flammable/Explosive Limit, % in air:	No data	6%	7.3%

### Conditions of flammability:

Flammable in the presence of a source of ignition and the liquid temperature is above the flash point.

Keep away from heat/ sparks/ open flame/ hot surface. No smoking in the vicinity.

Extremely dangerous! Vapor can travel distances to ignition sources and flash back.

### Extinguishing Media:

Water spray, foam, dry chemical or carbon dioxide.

Do not allow contaminated water to enter sewers or waterways.

### Fire Fighting Instructions:

In case of fire, use normal fire fighting equipment including a NIOSH approved self-contained breathing apparatus (SCBA). Use water to cool containers.

### Hazardous Combustion Products:

Oxides of carbon and nitrogen, plus product vapors.

## 6. Accidental Release Measures

### Personal Protection for Emergency Situations:

Evacuate the area of all unnecessary personnel. Eliminate any ignition sources until the area is determined to be free from explosion and fire hazards. Contain the release and eliminate its source if this can be done safely.

### Spill Mitigation Procedures

**Air Release:** Hazardous concentrations in air may be found in local spill area and immediately downwind. Vapors may be suppressed by the use of water fog. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste. Do not flush to sewer! US regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of stipulated quantities. US Coast Guard National Response Center is 800-424-8802.

**Water Release:** This material is soluble in water. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste. Notify all downstream users of possible contamination.

**Land Release:** Create a dike or trench to contain materials. Absorb spill with inert material (e.g., dry sand, clay, earth or commercial absorbent), then place in a chemical waste container. Decontaminate all clothing and the spill area using a detergent and flush with large amounts of water. Contain all contaminated water for disposal and/or treatment. Vapors are heavier than air and may accumulate at ignitable concentrations in low areas.

**Additional Spill Information:** Stop source of spill as soon as possible and notify appropriate personnel. Utilize emergency response personal protection equipment prior to the start of any response. Evacuate all non-essential personnel. Dispose of spill residues per guidelines under Section 13, Disposal Considerations.

## 7. Handling and Storage

**Handling:** Use with adequate ventilation. Vent containers before opening wide.

Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash with water. Avoid breathing vapor, mist or gas. Electrically ground all equipment when handling this product.

Retained residue may make empty containers hazardous. USE CAUTION!

### Storage

Keep container closed when not in use. Store in a cool dry area away from ignition sources and oxidizers.

Outside or detached storage is preferred. Do not store in copper or copper alloy storage vessels.

### Shelf Life Limitations:

See label or certificate of analysis for shelf life if applicable.

### Incompatible Materials for Storage:

Refer to Section 10, "Incompatible Materials."

## 8. Exposure Controls and Personal Protection

CAS #	Material or Component	Parameter	Value	Source
67-56-1	Methanol	TLV	200 ppm	ACGIH and OSHA 1910.100 Table Z-1, NIOSH
		STEL	250 ppm	ACGIH and OSHA 1910.100 Table Z-1, NIOSH
75-52-5	Nitromethane			Potential for dermal absorption. BEI.
		TLV	20 ppm	ACGIH
		TWA	100 ppm	OSHA 1910.100 Table Z-1
				Thyroid effects, URT irritation, lung damage, A3
Not applicable	Non-petroleum lubricants			No exposure limits established.

ACGIH = American Conference of Governmental Industrial Hygienists

NIOSH = National Institute for Occupational Safety and Health OSHA = Occupational Safety and Health Administration

TLV = Threshold Limit Value STEL = Short Term Exposure Limit TWA = Time Weighted Average

BEI = Biological Exposure Limit exists for this material

NE = Not Established A3 = Confirmed Animal carcinogen with Unknown Relevance to Humans

Ventilation:

Local exhaust ventilation or other engineering controls are normally preferred when handling or using this product. Otherwise, use general exhaust ventilation if that is sufficient for general worker safety and comfort.

Explosion proof motors and fans are required. A NIOSH/MSHA approved air supplied respirator is advised in the absence of adequate environmental control.

Protective Equipment for Routine Use of Product

Respiratory Protection:

See previous paragraph. Material should be handled or transferred in an approved fume hood or with adequate ventilation.

Respirator Type(s):

Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.

Skin: Wear impervious gloves (butyl rubber, Viton, e.g.) to avoid skin contact. Follow good industrial hygiene practices.

Eyes: Use chemical safety glasses with side shields, safety goggles and/or a full face shield where splashing is possible.

Protective Clothing Type: Impervious

Other: A safety shower and eye bath should be readily available.

## 9. Physical Data

Physical State:	Thin liquid		
Color:	See color code in Section 1.		
Odor:	Characteristic odor: Irritating, alcohol, fruity, disagreeable		
Molecular Weight:	Not applicable to a blend. See Sec. 3 for component data.		
pH (@ 25 Deg. C):	Not applicable		
Melting/ Freezing Point:	Below 0°F (-18°C)	Methanol -97.8°C ; Nitromethane -29°C	
Initial Boiling Point: / Boiling range:	149°F (65°C)	Methanol 65°C; Nitromethane 101°C	
Flash point:		Methanol 52°F (11°C) Nitromethane 97°F (36°C)	
Evaporation rate:	No data		
Flammability solid/ gas:	Not applicable		
Upper flammability limit:	No data	36% V (Methanol)	62% V Nitromethane
Lower flammability limit:	No data	6% V (Methanol)	7.3% V Nitromethane
Vapor Pressure (mm Hg @ 20 Deg. C):	Variable:	Methanol 97.7 mm Hg @ 20°C; Nitromethane 27.8 mm Hg @ 20°C.	
Vapor Density (Air = 1):	No data		
Relative density/ Specific Gravity:	0.80-0.90		
Solubility in Water:	80-84%		
Partition coefficient: n-octanol/ water:	No data		
Auto ignition temperature:	No data		
Decomposition temperature:	No data		
Viscosity:	No data		
Volatiles % by vol.:	80-84		

## 10. Stability and Reactivity

### Stability and Reactivity Summary:

Stable under normal conditions.

Methanol: May react violently with acids, acid chlorides, acid anhydrides, oxidizing agents and alkali metals.

Nitromethane: Pure material is shock sensitive and thermally unstable, but methanol blends are NOT.

Forms an explosive sodium salt which bursts into flame upon contact with water.

### Reactive Properties:

Sensitivity to mechanical shock: No

Hazardous Polymerization: Will not occur

Conditions to Avoid: High temperatures, exposure to heat, sparks, flame

Chemical Incompatibility: Sulfuric acid, oxidizer. See above.

Incompatible materials: Corrosive to copper, zinc and their alloys, as well as other metals.

Hazardous Decomposition Products: CO, CO<sub>2</sub>, Nitrogen oxides.

Decomposition Temperature: No data

Product May Be Unstable At Temperatures Above: No data

## 11. Toxicological Information

Component Animal Toxicology	Methanol	Nitromethane	Lubricant
Oral LD50 value:	1.187 mg/kg (rat)	940 mg/kg (rat)	>2,000 mg/kg
Dermal LD50 value:	17.1 g/kg rabbit	No data	No data
Inhalation LC50 value:	128.2 mg/l rat, 4 hrs 87.6 mg/l rat 6 hrs	No data	> 30,000 mg/kg

Skin Irritation: This material is expected to be moderately irritating.

Eye Irritation: This material is expected to be severely irritating.

Reproductive and Developmental Toxicity:

Methanol caused birth defects in rats exposed to high levels of vapors : 20,000 ppm.

Nitromethane caused adverse reproductive effects in experimental animals.

Mutagenicity: Methanol: In vitro: Limited positive evidence. In vivo: No information. Nitromethane: No information.

Specific target organ toxicity - single exposure (GHS): Causes damage to organs.

Specific target organ toxicity - repeated exposure (GHS): not classified as specific target organ toxicant, repeated exposure.

Carcinogenicity: Methanol: No evidence in animals from ingestion or skin absorption.

Nitromethane: ACGIH A3; CA Prop 65: Listed; NTP: Suspected carcinogen; IARC: 2B Carcinogen.

Carcinogenicity: rat-Inhalation. Tumorigenic by RTECS criteria. Skin and appendages: Other :Tumors.

Specific target organ toxicity - single exposure (GHS): No data

Specific target organ toxicity - repeated exposure (GHS): No data

## 12. Ecological Information

### Methanol

#### Toxicity:

To fish: Mortality lc50 - Lepomis macrochirus (Blue gill) - 15,400 mg/l - 96 hr

NOEC - Oryzias latipes - 7,900 mg/l -200 hr

To daphnia and other aquatic invertebrates: EC-50: Daphnia magna (Water flea) ->10,000 mg/l -48 hr

To algae: Growth inhibition EC50 - Scenedesmus capricornutum (fresh water algae)- 22,000 mg/l -96 hr

Biodegradability: Aerobic: 72% -rapidly biodegradable

Bioaccumulation potential:

Bioaccumulation: Cyprinus carpio (Carp)- 72 d at 20°C

Bioconcentration factor (BCF): 1.0

#### Environmental Fate:

Methyl alcohol is expected to biodegrade in soil and water very rapidly.

This product will show high soil mobility and will be degraded from the ambient atmosphere by the reaction with photochemically produced hydroxyl radicals with an estimated half-life of 17.8 days.

Bioconcentration factor for fish (golden ide) < 10.

Based on a log Kow of -0.77, the BCF value for methanol can be estimated to be 0.2.

## 12. Ecological Information (continued)

### Nitromethane

#### Ecotoxicity:

This material is expected to be slightly toxic to aquatic life.

#### Environmental Fate:

When released into the soil, this material is expected to readily biodegrade.

When released into the soil, this material is expected to leach into groundwater

When released into the soil, this material is expected to quickly evaporate.

When released into the water, this material is expected to have a half-life between 1 and 10 days.

When released into water, this material is expected to readily biodegrade.

When released into the air, this material is expected to exist in the aerosol phase with a short half-life.

When released into the air, this material is expected to be readily degraded by reaction with

photochemically produced hydroxyl radicals.

When released into air, this material is expected to have a half-life between 10 and 30 days.

When released into the air, this material is expected to be readily removed from the atmosphere by wet deposition.

### Lubricant

#### Ecotoxicity:

Acute and Prolonged Toxicity to Fish -

Rainbow Trout / LC50 (96 h): > 100 mg/l

Toxicity to Microorganisms: N/A

Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Do not release untreated into natural waters.

Not a Marine Pollutant.

#### Environmental Fate:

Biodegradation:

Test Method: OECD Guideline 301F

Method of Analysis: BOD of the ThOD

Degree of Elimination: > 60% (28 d)

Evaluation: Readily Biodegradable

Chemical Oxygen Demand (COD): 2,050 mg/g

## 13. Disposal Considerations

Waste Disposal Summary:

Product as supplied qualifies as "Unlisted Hazardous Waste D001" with the characteristic of ignitability.

Disposal Methods:

Disposed of in accordance with local, state and federal regulations for hazardous waste.

Components subject to land ban restrictions:

No components subject to land ban restrictions.

## 14. Transportation Information

Proper Shipping Name, Hazard Class, UN/NA Number Packing Group, Emergency Response Guide Number	
US DOT:	UN1993, Flammable liquids, n.o.s., (Contains methanol, nitromethane), Class 3, PG II ERG 128
Labels required per 49 CFR 172.101:	Flammable
Size for "Limited quantity" per 49 CFR 173.150-.155:	1 quart max. in 66# max. container
Reportable Quantity ("RQ") per 49 CFR 172.101:	Not possible in one non bulk container.
Passenger air/ Rail	5 liter
Cargo air only:	60 liter
Vessel stowage:	B

IMO/IMDG Classification: UN1992, Flammable liquids, N.O.S., TOXIC, (Contains methanol, nitromethane)  
Class 3(6.1), PG II (12°C cc)

**15. Regulatory Information**

**OSHA Hazards:** Flammable liquid and vapor, toxic.

**SARA Title III, Section 302 Components (40 CFR 365, APP. A)**

Methanol 5000

**SARA 311/312 Hazards**

Acute Yes

Chronic Yes

**SARA Title III, Section 313 Components (40 CFR 370.2)**

Methanol

**CERCLA (Comprehensive Environmental Response Compensation and Liability Act, 40 CFR 302.4)**

Reportable quantities: Methanol 5000#

**TSCA (Toxic Substances Control Act: 40 CFR 710:**

All ingredients listed.

**RCRA (Resource Conservation & Recovery Act)**

Product has the characteristic of flammability and qualifies as "Unlisted Hazardous Waste D001" RQ 100#.

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other reproductive harm.

**State Right-to-Know Regulations Status of Ingredients**

Methanol listed in: CT, FL, IL, MA, NJ, NY, PA, RI

Nitromethane listed in: CA, MA, MN, NJ, PA

**Canada: WHMIS (Workplace Hazardous Materials Information System):**

Category B2, Flammable Liquid

**16. Additional Information**

This Safety Data Sheet (SDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. The information in this SDS should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of the manufacturer. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the health of employees and customers.

If this SDS is more than three (3) years old you should contact the supplier to make sure that the information is still current. Date of preparation: August 20, 2014

Replaces SDS dated June 30, 2014, to correct product designations in Section 1.