

SAFETY DATA SHEET



Section 1. Identification

GHS product identifier : Clarion® Green BIO 32
Synonyms : Not available.
Code : 633580009

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Supplier's details : CITGO Petroleum Corporation
P.O. Box 4689
Houston, TX 77210
sdsvend@citgo.com

Emergency telephone number (with hours of operation) : Technical Contact: (800) 248-4684 (M-F, 8 AM to 4 PM)
Medical Emergency: (832) 486-4700 (24 Hr)
CHEMTREC Emergency: (800) 424-9300 (24 Hr)
(United States Only)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Keep out of reach of children.

Prevention : Do not get in eyes, on skin, or on clothing.

Response : Wash with plenty of soap and water or use a recognized skin cleanser.

Storage : Store in accordance with all local, regional, national and international regulations. Store in a dry place and a closed container. Empty containers may contain material residues which can ignite with explosive force. Misuse of empty containers can be dangerous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers can cause fire, explosion, or release of toxic fumes from residues. Do not pressurize or expose empty containers to open flame, sparks, or heat. Keep container closed and drum bungs in place. All label warnings and precautions must be observed. Return empty drums to a qualified reconditioner. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling, or disposing of empty containers and/or waste residues of this material.

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

Hazards not otherwise classified : Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

| Ingredient name | % | CAS number |
|--|----|------------|
| Distillates, petroleum, hydrotreated, light naphthenic | ≤3 | 64742-53-6 |

* = Various ** = Mixture *** = Proprietary

Any concentration shown as a range is to protect confidentiality or is due to process variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In the event of injection in underlying tissue, immediate treatment should include extensive incision, debridement and saline irrigation. Inadequate treatment can result in ischemia and gangrene. Early symptoms may be minimal.
- Specific treatments** : Treat symptomatically and supportively.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Bulk Storage Conditions: Maintain all storage tanks in accordance with applicable regulations. Use necessary controls to monitor tank inventories. Inspect all storage tanks on a periodic basis. Test tanks and associated piping for tightness. Maintain the automatic leak detection devices to assure proper working condition.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Distillates, petroleum, hydrotreated, light naphthenic

OSHA PEL (United States, 5/2018).

TWA: 5 mg/m³ 8 hours.

ACGIH TLV (United States, 1/2022).

TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction

NIOSH REL (United States, 10/2020).

TWA: 5 mg/m³ 10 hours. Form: Mist

STEL: 10 mg/m³ 15 minutes. Form: Mist

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, vapor controls, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Avoid skin contact with liquid. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Leather boots are not protective for liquid contact.

Respiratory protection : Avoid inhalation of gases, vapors, mists or dusts. Use a properly fitted, air-purifying or supplied-air 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.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

| | |
|--|---------------------------------------|
| Physical state | : Liquid. |
| Color | : Light amber |
| Odor | : Not available. |
| pH | : Not available. |
| Melting point | : -36°C (-32.8°F) |
| Boiling point, initial boiling point, and boiling range | : Not available. |
| Flash point | : Open cup: 200°C (392°F) [Cleveland] |
| Lower and upper explosive (flammable) limits | : Not available. |
| Vapor pressure | : |

| Ingredient name | Vapor Pressure at 20°C | | | Vapor pressure at 50°C | | |
|--|------------------------|---------------|----------------|------------------------|-----|--------|
| | mm Hg | kPa | Method | mm Hg | kPa | Method |
| ethylene oxide | 1314.11 | 175.2 | | | | |
| propylene oxide | 538 | 71.7 | OECD 104 | | | |
| methanol | 126.96 | 16.9 | | | | |
| benzene | 75.01 | 10 | | | | |
| 1,4-dioxane | 30.75 | 4.1 | | | | |
| toluene | 23.17 | 3.1 | | | | |
| 2-methylpropan-1-ol | <12 | <1.6 | DIN EN 13016-2 | | | |
| Distillates (petroleum), hydrotreated light | 0.23 to 0.45 | 0.031 to 0.06 | | | | |
| Distillates (petroleum), hydrotreated heavy paraffinic | <0.08 | <0.011 | ASTM D 5191 | | | |
| Distillates (petroleum), hydrotreated heavy paraffinic | <0.08 | <0.011 | ASTM D 5191 | | | |
| Dec-1-ene, dimers, hydrogenated | 0.014 | 0.0019 | ASTM E 1194-87 | | | |

| | |
|----------------------------------|--|
| Relative vapor density | : Not available. |
| Relative density | : 0.89 |
| Density lbs/gal | : Estimated 7.42 lbs/gal |
| Density gm/cm³ | : Not available. |
| Gravity, °API | : Estimated 27 @ 60 F |
| Solubility | : Insoluble in the following materials: cold water. |
| Auto-ignition temperature | : Lowest known value: 324°C (615.2°F) (Dec-1-ene, dimers, hydrogenated). |
| Viscosity | : Kinematic (40°C (104°F)): 34 mm ² /s (34 cSt) |
| Viscosity SUS | : Estimated 158 SUS @104 F |
| Flow time (ISO 2431) | : Not available. |
| Particle characteristics | |
| Median particle size | : Not applicable. |

Section 10. Stability and reactivity

- Reactivity** : Not expected to be Explosive, Self-Reactive, Self-Heating, or an Organic Peroxide under US GHS Definition(s).
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : No specific data.
- Incompatible materials** : No specific data.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|--|-----------|---------|-------------|----------|
| Distillates, petroleum, hydrotreated, light naphthenic | LD50 Oral | Rat | >5000 mg/kg | - |

- Conclusion/Summary** : **Distillates (petroleum), hydrotreated light naphthenic**: INHALATION (LC50) Acute: 9.6 mg/L (Female Rat).
 INHALATION (LC50) Acute: 10.5 mg/L (Male Rat).
 DRAIZE EYE Acute: Non-irritating (Rabbit).
 DRAIZE DERMAL Acute: Mild skin irritant (Rabbit).
 BUEHLER DERMAL Acute: Non-sensitizing (Guinea Pig).
 28-Day DERMAL Sub-Chronic: Mild to moderate skin irritant (Rabbit & Rat).

A life-time dermal application of severely hydrotreated light naphthenic oils produced skin masses on mice which correlated with the skin irritation response levels of the test animals. Additional studies attribute these masses to a weak promotional activity. These studies indicate that light naphthenic oils are not mutagenic, tumor initiators nor complete chemical carcinogens. These materials have not been determined to be carcinogenic by IARC, NTP or OSHA.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|--|--------------------------|---------|-------|-----------------|-------------|
| Distillates, petroleum, hydrotreated, light naphthenic | Skin - Moderate irritant | Rabbit | - | 24 hours 0.5 MI | - |

- Skin** : No additional information.
Eyes : No additional information.
Respiratory : No additional information.

Sensitization

Not available.

- Skin** : No additional information.
Respiratory : No additional information.

Mutagenicity

Not available.

- Conclusion/Summary** : No additional information.

Carcinogenicity

Section 11. Toxicological information

Not available.

Conclusion/Summary : No additional information.

Reproductive toxicity

Not available.

Conclusion/Summary : No additional information.

Teratogenicity

Not available.

Conclusion/Summary : No additional information.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

| Name | Result |
|--|--------------------------------|
| Distillates, petroleum, hydrotreated, light naphthenic | ASPIRATION HAZARD - Category 1 |

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

N/A

Section 12. Ecological information

Toxicity

Not available.

Conclusion/Summary : Not available.

Persistence and degradability

Conclusion/Summary : Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|-------------------------|-------------------|------------|------------------|
| Clarion® Green BIO 32 | - | - | Readily |

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

RCRA classification : D018

Section 14. Transport information

| | DOT Classification | IMDG | IATA |
|-----------------------------------|--------------------|----------------|----------------|
| UN number | Not regulated. | Not regulated. | Not regulated. |
| UN proper shipping name | - | - | - |
| Transport hazard class(es) | - | - | - |

Section 14. Transport information

| | | | |
|------------------------------|-----|-----|-----|
| Packing group | - | - | - |
| Environmental hazards | No. | No. | No. |

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b):** All components are listed or exempted.
Clean Water Act (CWA) 307: toluene; benzene
Clean Water Act (CWA) 311: toluene; benzene; propylene oxide

This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

SARA 302/304

Composition/information on ingredients

| Name | % | EHS | SARA 302 TPQ | | SARA 304 RQ | |
|-----------------|-------|------|--------------|-----------|-------------|-----------|
| | | | (lbs) | (gallons) | (lbs) | (gallons) |
| propylene oxide | trace | Yes. | 10000 | 1444.3 | 100 | 14.4 |
| ethylene oxide | trace | Yes. | 1000 | - | 10 | - |

SARA 304 RQ : 695787701.3 lbs / 315887616.4 kg [93762561.6 gal / 354929906 L]

SARA 311/312

Classification : HNOC - Injection Hazards

Composition/information on ingredients

| Name | % | Classification |
|--|----|--|
| Distillates, petroleum, hydrotreated, light naphthenic | ≤3 | ASPIRATION HAZARD - Category 1 HNOC - Injection Hazards |

State regulations

Massachusetts : The following components are listed: MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED LIGHT NAPHTHENIC

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

California Prop. 65 Clear and Reasonable Warnings (2018)

⚠ WARNING: This product can expose you to chemicals including Benzene, which is known to the State of California to cause cancer, and Toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Section 15. Regulatory information

| Ingredient name | % | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|-----------------|---------|--------|--------------|---------------------------|---------------------------------|
| toluene | <0.1 | No. | Yes. | - | Yes. |
| methanol | <0.01 | No. | Yes. | - | Yes. |
| benzene | <0.0001 | Yes. | Yes. | Yes. | Yes. |
| propylene oxide | trace | Yes. | No. | - | - |
| 1,4-dioxane | trace | Yes. | No. | Yes. | - |
| ethylene oxide | trace | Yes. | Yes. | Yes. | Yes. |

International regulations

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

Inventory list

| | |
|--------------------------|--|
| United States | : All components are listed or exempted. |
| Australia | : Not determined. |
| Canada | : All components are listed or exempted. |
| China | : Not determined. |
| Europe | : |
| Japan | : Japan inventory (CSCL): Not determined. Japan inventory (ISHL): Not determined. |
| Malaysia | : Not determined |
| New Zealand | : Not determined. |
| Philippines | : Not determined. |
| Republic of Korea | : Not determined. |
| Taiwan | : Not determined. |
| Thailand | : Not determined. |
| Turkey | : Not determined. |
| Viet Nam | : Not determined. |

Section 16. Other information

National Fire Protection Association (U.S.A.)



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Procedure used to derive the classification

| Classification | Justification |
|-----------------|---------------|
| Not classified. | |

History

Section 16. Other information

Date of printing : 6/29/2023

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Date of previous issue : 11/2/2022

Version : 6.01

Key to abbreviations : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 UN = United Nations

References : Not available.

☑ Indicates information that has changed from previously issued version.

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