

SAFETY DATA SHEET

CITGO® SYNDURANCE® ST 460 Grease, No. 1



Section 1. Identification

| | |
|---|--|
| GHS product identifier | : CITGO® SYNDURANCE® ST 460 Grease, No. 1 |
| Synonyms | : Lubricating grease; CITGO® Material Code: 655451001 |
| Material uses | : Grease |
| Code | : 655451001 |
| MSDS # | : 655451001 |
| 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 Medical Emergency: (832) 486-4700 CHEMTREC Emergency: (800) 424-9300 (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 | : AQUATIC HAZARD (LONG-TERM) - Category 4 |
| GHS label elements | |
| Signal word | : Warning |
| Hazard statements | : May cause long lasting harmful effects to aquatic life. Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor. |
| Precautionary statements | |
| General | : Avoid contact with eyes, skin and clothing. Thoroughly wash exposed areas and clothing with soap and water. IF IN EYES: Rinse cautiously with water for several minutes. IF SWALLOWED: Do not induce vomiting. If you feel unwell, seek medical attention and show the label when possible. Keep out of reach of children. |
| Prevention | : Avoid release to the environment. |
| Response | : Not applicable. |
| Storage | : Store in a dry place and/or in closed container. Store in accordance with all local, regional, national and international regulations. |
| Disposal | : Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| Hazards not otherwise classified | : Injection of petroleum hydrocarbons requires immediate medical attention. |

Section 3. Composition/information on ingredients

| | |
|--------------------------------------|--|
| Substance/mixture | : Mixture |
| Other means of identification | : Lubricating grease; CITGO® Material Code: 655451001 |
| CAS number/other identifiers | |
| CAS number | : Not applicable. |

Section 3. Composition/information on ingredients

| Ingredient name | % | CAS number |
|---|-----------|------------|
| Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated | ≥25 - ≤50 | 68037-01-4 |
| lithium 12-hydroxystearate | ≥10 - ≤25 | 7620-77-1 |
| calcium carbonate | <10 | 471-34-1 |

* = 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 as hazardous to health or the environment 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. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. 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.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. 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. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. 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.

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.

Section 4. First aid measures

- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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** : This material may cause long lasting harmful effects to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

- 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. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. 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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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.

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: Do not apply heat or flame to stockpiled material. Rotate stock to reduce the potential for hot spots. Do not store with oxidizers. Minimize dust creation by keeping material moist and/or covered.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

lithium 12-hydroxystearate

calcium carbonate

ACGIH TLV (United States).

TWA: 10 mg/m³ 8 hours.

NIOSH REL (United States, 10/2016).

TWA: 5 mg/m³ 10 hours. Form: Respirable fraction

TWA: 10 mg/m³ 10 hours. Form: Total

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: 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

Section 8. Exposure controls/personal 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers.
- 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** : 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.
- Respiratory protection** : Avoid inhalation of gases, vapors, mists or dusts. Use a properly fitted, particulate filter 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

Appearance

- Physical state** : Solid. [Smooth texture]
- Color** : Maroon
- Odor** : Mild petroleum odor
- pH** : Not available.
- Boiling point** : Not available.
- Flash point** : Open cup: >150°C (>302°F) [Estimated]
- Evaporation rate** : <1 (butyl acetate = 1)
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : <0.013 kPa (<0.1 mm Hg) [room temperature]
- Vapor density** : >10 [Air = 1]
- Relative density** : 0.855
- Density lbs/gal** : Estimated 7.13 lbs/gal
- Density gm/cm³** : Not available.
- Gravity, °API** : Estimated 34 @ 60 F
- Solubility** : Insoluble in the following materials: cold water.
- Flow time (ISO 2431)** : Not available.
- NLGI Grade** : 1

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 |
|---|-------------|---------|-------------|----------|
| Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated | LD50 Dermal | Rabbit | >2000 mg/kg | - |
| calcium carbonate | LD50 Oral | Rat | >2000 mg/kg | - |
| | LD50 Oral | Rat | 6450 mg/kg | - |

Conclusion/Summary : **Poly alpha olefins:**
Potential mild skin irritant from repeated or prolonged exposures.

Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated:
Practically non-irritating to eyes. Practically non-irritating to the skin.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|--------------------------|---------|-------|-------------------------|-------------|
| calcium carbonate | Skin - Moderate irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Mild irritant | Rabbit | - | - | - |
| | Respiratory - Irritant | Rabbit | - | - | - |

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

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

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal.

Section 11. Toxicological information

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.
Fertility effects : No known significant effects or critical hazards.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|---|---|---------------------|
| calcium carbonate | Acute LC50 >56000 ppm Fresh water Chronic NOEC 61 mg/g Fresh water | Fish - Gambusia affinis - Adult Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling) | 96 hours 28 days |

- Conclusion/Summary** : **Benzenamine, 2-ethyl-N-(2-ethylphenyl)-, (tripropenyl) derivs.**: No known significant effects or critical hazards.

Persistence and degradability

- Conclusion/Summary** : Not available.

Bioaccumulative potential

Section 12. Ecological information

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|-----|-----------|
| Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated lithium 12-hydroxystearate | >6.5 | - | high |
| | - | 8 | low |

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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. 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) | - | - | - |
| 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 Annex II of MARPOL and the IBC Code : 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**: Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts; Organic Zinc Compound; Organic Zinc Compound; benzene; toluene; ethylbenzene; naphthalene
- Clean Water Act (CWA) 311**: maleic anhydride; benzene; toluene; xylene; ethylbenzene; naphthalene
- 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

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

| Name | % | Classification |
|-------------------|-----|--|
| calcium carbonate | <10 | SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A |

State regulations

- Massachusetts** : None of the components are listed.
- 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 Benzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including Naphthalene, Cumene, Ethylbenzene, which are known to the State of California to cause cancer, and Toluene, n-Hexane, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

| Ingredient name | % | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|-----------------|--------|--------|--------------|---------------------------|---------------------------------|
| naphthalene | <0.001 | Yes. | No. | Yes. | - |
| cumene | <0.001 | Yes. | No. | - | - |
| ethylbenzene | <0.001 | Yes. | No. | Yes. | - |
| toluene | <0.01 | No. | Yes. | - | Yes. |
| n-hexane | <0.001 | No. | Yes. | - | - |
| benzene | <0.01 | Yes. | Yes. | Yes. | Yes. |

International regulations

Inventory list

- United States** : All components are listed or exempted.
- Australia** : All components are listed or exempted.
- Canada** : All components are listed or exempted.
- China** : All components are listed or exempted.
- Europe** : All components are listed or exempted.
- Japan** : **Japan inventory (ENCS)**: At least one component is not listed.
Japan inventory (ISHL): Not determined.

Section 15. Regulatory information

| | |
|-------------------|--|
| Malaysia | : Not determined. |
| New Zealand | : Not determined. |
| Philippines | : All components are listed or exempted. |
| Republic of Korea | : All components are listed or exempted. |
| 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 |
|---|--------------------|
| AQUATIC HAZARD (LONG-TERM) - Category 4 | Calculation method |

History

| | |
|--------------------------------|-------------|
| Date of printing | : 12/7/2018 |
| Date of issue/Date of revision | : 12/7/2018 |
| Date of previous issue | : 4/24/2018 |
| Version | : 2 |

Key to abbreviations

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|---|
| : 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.

Notice to reader

Section 16. Other information

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