

SAFETY DATA SHEET

According to 29 CFR 1910.1200
5510

Section 1. Identification

Product name : TOUGH COAT® Advanced
Gloss Safety/OSHA Orange

Product code : 5510

Other means of identification : Not available.

Product type : Liquid.

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

Paint or paint related material.

Manufacturer : Krylon Products Group
101 Prospect Avenue NW
Cleveland, OH 44115

Emergency telephone number of the company : US/Canada: (800) 424-9300
Mexico: CHEMTREC Mexico 800-681-9531. Available 24 hours and 365 days per year

Product Information Telephone Number : US/Canada: (800) 247-3266
Mexico: Not Available

Transportation Emergency Telephone Number : US/Canada: (800) 424-9300
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

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 : FLAMMABLE LIQUIDS - Category 2
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 23.9% (oral), 23.9% (dermal), 33.6% (inhalation)

GHS label elements

Hazard pictograms



Signal word : Danger

Date of issue/Date of revision : 11/29/2025 **Date of previous issue** : 9/13/2025

5510
TOUGH COAT® Advanced
Gloss Safety/OSHA Orange

Version : 17 **1/21**

SHW-85-NA-GHS-US

Section 2. Hazards identification

Hazard statements	: Highly flammable liquid and vapor. - May be fatal if swallowed and enters airways. - Causes skin irritation. - May cause an allergic skin reaction. - Causes serious eye irritation. - May cause drowsiness or dizziness. - Suspected of causing cancer. - May damage fertility or the unborn child. - Causes damage to organs through prolonged or repeated exposure. (lungs)
<u>Precautionary statements</u>	
Prevention	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.
Response	: IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
Storage	: Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY. Adequate ventilation required when sanding or abrading the dried film. If Adequate ventilation cannot be provided wear an approved particulate respirator (NIOSH approved). Follow respirator manufacturer's directions for respirator use. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Abrading or sanding of the dry film may release Crystalline Silica which has been shown to cause lung damage and cancer under long term exposure. Please refer to the SDS for additional information. Keep out of reach of children. Do not transfer contents to other containers for storage.
Hazards not otherwise classified	: DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations.
Hazards identified when used	: No known significant effects or critical hazards.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Other means of identification	: Not available.
<u>CAS number/other identifiers</u>	

Section 3. Composition/information on ingredients

Ingredient name	% by weight	Identifiers
Light Aliphatic Hydrocarbon	≥10 - ≤25	64742-47-8
Calcium Carbonate	≥10 - <20	1317-65-3
Kaolin	≥10 - ≤25	1332-58-7
Methyl Acetate	≤10	79-20-9
Bismuth Vanadate	≤5	14059-33-7
2-methoxy-1-methylethyl acetate	≤3	108-65-6
Zirconium 2-Ethylhexanoate	≤1	22464-99-9
Light Aromatic Hydrocarbons	<1	64742-95-6
Methyl Ethyl Ketoxime	<1	96-29-7
Hydrotreated Heavy Petroleum Naphtha	≤0.3	64742-48-9
trimethylbenzene	≤0.3	25551-13-7
Cobalt 2-Ethylhexanoate	≤0.3	136-52-7

Any concentration shown as a range is to protect confidentiality or is due to batch 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. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 necessary, call a poison center or physician. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. 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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Section 4. First aid measures

- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Section 5. Fire-fighting measures

Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
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.
Remark	: Flammable liquid.

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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. 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).

Methods and materials for containment and cleaning up

Small spill	: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert 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. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away
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Section 7. Handling and storage

from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. 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 a segregated and approved area. 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. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	CAS #	Exposure limits
Light Aliphatic Hydrocarbon	64742-47-8	ACGIH TLV (United States, 1/2024) [Kerosene] A3. Absorbed through skin. TWA 8 hours: 200 mg/m ³ (as total hydrocarbon vapor).
Calcium Carbonate	1317-65-3	NIOSH REL (United States, 10/2020) [calcium carbonate] TWA 10 hours: 10 mg/m ³ . Form: Total. TWA 10 hours: 5 mg/m ³ . Form: Respirable fraction.
Kaolin	1332-58-7	OSHA PEL (United States, 5/2018) TWA 8 hours: 15 mg/m ³ . Form: Total dust. TWA 8 hours: 5 mg/m ³ . Form: Respirable fraction. ACGIH TLV (United States, 1/2024) A4. TWA 8 hours: 2 mg/m ³ . Form: Respirable fraction. NIOSH REL (United States, 10/2020) TWA 10 hours: 10 mg/m ³ . Form: Total. TWA 10 hours: 5 mg/m ³ . Form: Respirable fraction. OSHA PEL (United States, 5/2018) TWA 8 hours: 15 mg/m ³ . Form: Total dust. TWA 8 hours: 5 mg/m ³ . Form: Respirable fraction.
Methyl Acetate	79-20-9	ACGIH TLV (United States, 1/2024) TWA 8 hours: 200 ppm. TWA 8 hours: 606 mg/m ³ . STEL 15 minutes: 250 ppm. STEL 15 minutes: 757 mg/m ³ . NIOSH REL (United States, 10/2020) TWA 10 hours: 200 ppm. TWA 10 hours: 610 mg/m ³ .

Section 8. Exposure controls/personal protection

Bismuth Vanadate	14059-33-7	STEL 15 minutes: 250 ppm. STEL 15 minutes: 760 mg/m³. OSHA PEL (United States, 5/2018) TWA 8 hours: 200 ppm. TWA 8 hours: 610 mg/m³. NIOSH REL (United States, 10/2020) [VANADIUM DUST] CEIL 15 minutes: 0.05 mg/m³ (as V). Form: Dust.
2-methoxy-1-methylethyl acetate	108-65-6	OARS WEEL (United States, 9/2024) TWA 8 hours: 50 ppm.
Zirconium 2-Ethylhexanoate	22464-99-9	ACGIH TLV (United States, 1/2024) [Zirconium and compounds] A4. TWA 8 hours: 5 mg/m³ (as Zr). STEL 15 minutes: 10 mg/m³ (as Zr). NIOSH REL (United States, 10/2020) [zirconium compounds] TWA 10 hours: 5 mg/m³ (as Zr). STEL 15 minutes: 10 mg/m³ (as Zr). OSHA PEL (United States, 5/2018) [Zirconium compounds] TWA 8 hours: 5 mg/m³ (as Zr).
Light Aromatic Hydrocarbons Methyl Ethyl Ketoxime	64742-95-6 96-29-7	None. OARS WEEL (United States, 9/2024) Skin sensitizer. TWA 8 hours: 10 ppm.
Hydrotreated Heavy Petroleum Naphtha trimethylbenzene	64742-48-9 25551-13-7	None. ACGIH TLV (United States, 1/2024) [trimethyl benzene, isomers] TWA 8 hours: 10 ppm.
Cobalt 2-Ethylhexanoate	136-52-7	ACGIH TLV (United States, 1/2024) [cobalt and inorganic compounds] A3. Skin sensitizer , Inhalation sensitizer. TWA 8 hours: 0.02 mg/m³ (as Co).

Occupational exposure limits (Canada)

Ingredient name	CAS #	Exposure limits
Petroleum refining, hydrotreated light distillate	64742-47-8	CA British Columbia Provincial (Canada, 9/2024) [kerosene/jet fuels] Absorbed through skin. TWA 8 hours: 200 mg/m³ (as total hydrocarbon vapour). Notes: Application restricted to conditions in which there are negligible aerosol exposures. CA Ontario Provincial (Canada, 6/2019) Absorbed through skin. TWA 8 hours: 200 mg/m³ (as total hydrocarbon vapour). CA Quebec Provincial (Canada, 2/2024) [kerosene] C3. Absorbed through skin. TWAEV 8 hours: 200 mg/m³. CA Alberta Provincial (Canada, 3/2023) [Kerosene/Jet fuels] Absorbed through skin. OEL 8 hours: 200 mg/m³ (as total hydrocarbon vapour).
Kaolin	1332-58-7	CA Saskatchewan Provincial (Canada,

Section 8. Exposure controls/personal protection

Methyl acetate	79-20-9	4/2021) STEL 15 minutes: 4 mg/m³. Form: respirable fraction. TWA 8 hours: 2 mg/m³. Form: respirable fraction. CA British Columbia Provincial (Canada, 9/2024) TWA 8 hours: 2 mg/m³. Form: Respirable. Notes: the value is for particulate matter containing no asbestos and less than 1% crystalline silica. CA Ontario Provincial (Canada, 6/2019) TWA 8 hours: 2 mg/m³. Form: Respirable particulate matter.. CA Quebec Provincial (Canada, 2/2024) TWAEV 8 hours: 2 mg/m³. Form: respirable aerosol fraction. CA Alberta Provincial (Canada, 3/2023) OEL 8 hours: 2 mg/m³. Form: Respirable. CA Saskatchewan Provincial (Canada, 4/2021) STEL 15 minutes: 250 ppm. TWA 8 hours: 200 ppm. CA British Columbia Provincial (Canada, 9/2024) TWA 8 hours: 200 ppm. STEL 15 minutes: 250 ppm. CA Ontario Provincial (Canada, 6/2019) TWA 8 hours: 200 ppm. STEL 15 minutes: 250 ppm. CA Quebec Provincial (Canada, 2/2024) TWAEV 8 hours: 200 ppm. TWAEV 8 hours: 606 mg/m³. STEV 15 minutes: 250 ppm. STEV 15 minutes: 757 mg/m³. CA Alberta Provincial (Canada, 3/2023) OEL 8 hours: 606 mg/m³. OEL 15 minutes: 757 mg/m³. OEL 15 minutes: 250 ppm. OEL 8 hours: 200 ppm.
Zirconium 2-Ethylhexanoate	22464-99-9	CA British Columbia Provincial (Canada, 9/2024) [zirconium and compounds] TWA 8 hours: 5 mg/m³ (as Zr). STEL 15 minutes: 10 mg/m³ (as Zr). CA Ontario Provincial (Canada, 6/2019) [Zirconium and compounds] STEL 15 minutes: 10 mg/m³ (as Zr). TWA 8 hours: 5 mg/m³ (as Zr). CA Quebec Provincial (Canada, 2/2024) [Zirconium and compounds] TWAEV 8 hours: 5 mg/m³ (as Zr). STEV 15 minutes: 10 mg/m³ (as Zr). CA Alberta Provincial (Canada, 3/2023) [Zirconium and compounds] OEL 8 hours: 5 mg/m³ (as Zr). OEL 15 minutes: 10 mg/m³ (as Zr).
Methyl Ethyl Ketoxime	96-29-7	OARS WEEL (United States, 9/2024) Skin

Section 8. Exposure controls/personal protection

Cobalt 2-Ethylhexanoate	136-52-7	sensitizer. TWA 8 hours: 10 ppm. CA Saskatchewan Provincial (Canada, 4/2021) [Cobalt and inorganic compounds] STEL 15 minutes: 0.06 mg/m³ (measured as Co). TWA 8 hours: 0.02 mg/m³ (measured as Co). CA British Columbia Provincial (Canada, 9/2024) [cobalt and inorganic compounds] Carc 2B. Skin sensitizer. TWA 8 hours: 0.02 mg/m³ (as Co). Form: Inhalable. CA Ontario Provincial (Canada, 6/2019) [Cobalt and inorganic compounds] TWA 8 hours: 0.02 mg/m³ (as Co). CA Quebec Provincial (Canada, 2/2024) [Cobalt elemental, and inorganic compounds] C3. Skin sensitizer , Inhalation sensitizer. TWAEV 8 hours: 0.02 mg/m³ (as Co). Form: inhalable aerosol fraction.
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Occupational exposure limits (Mexico)

Ingredient name	CAS #	Exposure limits
Light Aliphatic Hydrocarbon	64742-47-8	ACGIH TLV (United States, 1/2024) [Kerosene] A3. Absorbed through skin. TWA 8 hours: 200 mg/m³ (as total hydrocarbon vapor).
Methyl Acetate	79-20-9	NOM-010-STPS-2014 (Mexico, 4/2016) TWA 8 hours: 200 ppm. STEL 15 minutes: 250 ppm.
Zirconium 2-Ethylhexanoate	22464-99-9	NOM-010-STPS-2014 (Mexico, 4/2016) [Circonio y compuestos] A4. TWA 8 hours: 5 mg/m³ (as Zr). STEL 15 minutes: 10 mg/m³ (as Zr).
Cobalt 2-Ethylhexanoate	136-52-7	NOM-010-STPS-2014 (Mexico, 4/2016) [Cobalto y compuestos inorgánicos] A3. TWA 8 hours: 0.02 mg/m³ (as Co).

Biological exposure indices (United States)

Ingredient name	Exposure indices
Cobalt 2-Ethylhexanoate	ACGIH BEI (United States, 1/2024) [cobalt and inorganic compounds including cobalt oxides] BEI: 15 µg/l, not combined with tungsten carbide - cobalt [in urine]. Sampling time: end of shift at end of workweek. BEI: Nonquantitative: Biological monitoring should be considered for this compound based on the review; however, a specific BEI® could not be determined due to insufficient data., cobalt with tungsten carbide - cobalt [in urine]. Sampling time: end of shift at end of workweek.

Section 8. Exposure controls/personal protection

Biological exposure indices (Canada)

No exposure indices known.

Biological exposure indices (Mexico)

Ingredient name	Exposure indices
Cobalt 2-Ethylhexanoate	Official Mexican STANDARD NOM-047-SSA1-2011, Environmental Health-Biological exposure indices for personnel occupationally exposed to chemical substances. (Mexico, 6/2012) [cobalto] BEI: 1 µg/l [Basal level. The determinant may be present in the biological sample obtained from subjects who have not been occupationally exposed, at a concentration that could affect the interpretation of the results. These background levels are included in the value; semi-quantitative. The biological determinant is an indicator of chemical exposure, but the quantitative interpretation of the measure is ambiguous. These biological determinants should be used as a screening test if a quantitative test is not possible.], cobalt [in blood]. Sampling time: at the end of the shift at the end of the work week. BEI: 15 µg/l [Basal level. The determinant may be present in the biological sample obtained from subjects who have not been occupationally exposed, at a concentration that could affect the interpretation of the results. These background levels are included in the value], cobalt [in urine]. Sampling time: at the end of the shift at the end of the work week.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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, fume scrubbers, 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face 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 contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Section 8. Exposure controls/personal protection

Skin protection

Hand protection

: 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. 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. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

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

: Orange.

Odor

: Not available.

Odor threshold

: Not available.

pH

: Not applicable.

Melting point/freezing point

: Not available.

Boiling point or initial boiling point and boiling range

: 55°C (131°F)

Flash point

: Closed cup: -12°C (10.4°F) [Pensky-Martens Closed Cup]

Evaporation rate

: 5.3 (butyl acetate = 1)

Flammability

: Flammable liquid.

Lower and upper explosion limit/flammability limit

: Lower: 1%
Upper: 16%

Vapor pressure

: 22.8 kPa (171 mm Hg)

Relative vapor density

: 2.6 [Air = 1]

Relative density

: 1.2

Density

: 1.2 g/cm³

Solubility(ies)

:

Media	Result
cold water	Not soluble

Partition coefficient: n-octanol/water

: Not applicable.

Auto-ignition temperature

: Not available.

Section 9. Physical and chemical properties

Decomposition temperature	: Not available.
Viscosity	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): <20.5 mm ² /s (<20.5 cSt)
Molecular weight	: Not applicable.
Particle characteristics	
Median particle size	: Not applicable.
Heat of combustion	: 11.932 kJ/g

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
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	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials
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

Methyl Acetate

Rat - Oral - LD50

>5 g/kg

Rabbit - Dermal - LD50

>5 g/kg

2-methoxy-1-methylethyl acetate

Rat - Oral - LD50

8532 mg/kg

Rabbit - Dermal - LD50

>5 g/kg

Zirconium 2-Ethylhexanoate

Rabbit - Dermal - LD50

>5 g/kg

Rat - Oral - LD50

>5 g/kg

Toxic effects: Behavioral - Somnolence (general depressed activity)

Light Aromatic Hydrocarbons

Rat - Oral - LD50

8400 mg/kg

Toxic effects: Behavioral - Somnolence (general depressed activity) Behavioral - Tremor Lung, Thorax, or Respiration - Other changes

Methyl Ethyl Ketoxime

Rat - Oral - LD50

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12/21

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TOUGH COAT® Advanced
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SHW-85-NA-GHS-US

Section 11. Toxicological information

Hydrotreated Heavy Petroleum Naphtha	930 mg/kg Rat - Oral - LD50 >6 g/kg Rat - Inhalation - LC50 Vapor 8500 mg/m ³ [4 hours] <u>Toxic effects:</u> Lung, Thorax, or Respiration - Other changes
trimethylbenzene	Rat - Oral - LD50 8970 mg/kg
Cobalt 2-Ethylhexanoate	Rabbit - Dermal - LD50 >5 g/kg <u>Toxic effects:</u> Skin After topical exposure - Primary irritation Rat - Oral - LD50 1.22 g/kg <u>Toxic effects:</u> Behavioral - Ataxia Behavioral - Coma

Conclusion/Summary [Product] : Not available.

Skin corrosion/irritation

Product/ingredient name

Methyl Acetate

Result

Rabbit - Skin - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

Rabbit - Skin - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 20 mg

Rabbit - Skin - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

trimethylbenzene

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name

Methyl Acetate

Result

Rabbit - Eyes - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 100 mg

Rabbit - Eyes - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 100 uL

Rabbit - Eyes - Severe irritant

Amount/concentration applied: 100 uL

Rabbit - Eyes - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

Light Aromatic Hydrocarbons

Methyl Ethyl Ketoxime

trimethylbenzene

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Section 11. Toxicological information

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Cobalt 2-Ethylhexanoate	-	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name

Result

Light Aliphatic Hydrocarbon

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Calcium Carbonate

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Methyl Acetate

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

2-methoxy-1-methylethyl acetate

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Light Aromatic Hydrocarbons

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Methyl Ethyl Ketoxime

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (upper respiratory tract) - Category 1

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Specific target organ toxicity (repeated exposure)

Product/ingredient name

Result

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Section 11. Toxicological information

Kaolin

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) (inhalation) - Category 1

Methyl Ethyl Ketoxime

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (blood system) - Category 2

Aspiration hazard

Product/ingredient name

Result

Light Aliphatic Hydrocarbon

ASPIRATION HAZARD - Category 1

Light Aromatic Hydrocarbons

ASPIRATION HAZARD - Category 1

Hydrotreated Heavy Petroleum Naphtha trimethylbenzene

ASPIRATION HAZARD - Category 1

ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact

: Causes serious eye irritation.

Inhalation

: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact

: Causes skin irritation. May cause an allergic skin reaction.

Ingestion

: Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

: Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation

: Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact

: Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion

: Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

Short term exposure

Potential immediate effects

: Not available.

Section 11. Toxicological information

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product] : Not available.

General : Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : May damage fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
2-methoxy-1-methylethyl acetate	8532	N/A	N/A	N/A	N/A
Light Aromatic Hydrocarbons	8400	N/A	N/A	N/A	N/A
Methyl Ethyl Ketoxime	100	1100	N/A	N/A	N/A
trimethylbenzene	500	N/A	N/A	11	N/A
Cobalt 2-Ethylhexanoate	1220	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name

Result

Light Aliphatic Hydrocarbon

Acute - LC50 - Fresh water

Fish - Bluegill - *Lepomis macrochirus*

Size: 35 to 75 mm

2200 µg/l [4 days]

Effect: Mortality

Methyl Acetate

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 28 to 32 days; Size: 17.5 mm; Weight: 0.087 g

320 mg/l [96 hours]

Effect: Mortality

Methyl Ethyl Ketoxime

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 30 days; Size: 21.2 mm; Weight: 0.148 g

843 mg/l [96 hours]

Effect: Mortality

trimethylbenzene

Acute - LC50 - Marine water

Crustaceans - Daggerblade grass shrimp - *Palaemon pugio*

5600 µg/l [48 hours]

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Section 12. Ecological information

Effect: Mortality

Conclusion/Summary [Product] : Not available.

Persistence and degradability

Not available.

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Light Aromatic Hydrocarbons	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Bismuth Vanadate	-	<14 [OECD 305]	Low
Zirconium 2-Ethylhexanoate	-	2.96	Low
Light Aromatic Hydrocarbons	-	10 to 2500	High
Methyl Ethyl Ketoxime	-	2.5 to 5.8 [OECD 305 C]	Low
Hydrotreated Heavy Petroleum Naphtha	-	10 to 2500	High
Cobalt 2-Ethylhexanoate	-	15600	High

Mobility in soil

Soil/Water partition coefficient : 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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1263	UN1263	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT	PAINT	PAINT
Transport hazard class(es)	3 	3 	3 	3 	3 
Packing group	II	II	II	II	II
Environmental hazards	No.	No.	No.	No.	No.
Additional information	- <u>ERG No.</u> 128	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3). <u>ERG No.</u> 128	- <u>ERG No.</u> 128	-	<u>Emergency schedules</u> F-E, S-E

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to IMO instruments : Not available.

Proper shipping name : Not available.

Section 15. Regulatory information

U.S. Federal regulations :
SARA 313

Section 15. Regulatory information

All data given below are MAXIMUM THEORETICAL VALUES based on the product AS CURRENTLY FORMULATED and rely on information provided to us by our raw material suppliers. Our suppliers often provide an estimated value or range less than a certain upper limit. We calculate MAXIMUM THEORETICAL VALUES using defined values, if provided, or the upper limit reported by our supplier. Additionally, the suppliers' information may include amounts present in the product as unintentional byproducts or impurities. Variations may occur in individual batches due to adjustments made during production. Reporting of chemicals in this section does not necessarily indicate their presence in the final formulated product.

Ingredient name	% by weight	CAS number
Vanadium Compound	4	
Zinc Compound	1	
Cobalt Compound	0.1	
Lead (as Pb)	0.00004	
Mercury (as Hg)	0.000001	

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

International regulations

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

International lists

: **Australia inventory (AIIIC)**: Not determined.
China inventory (IECSC): Not determined.
Japan inventory (CSCL): Not determined.
Japan inventory (ISHL): Not determined.
Korea inventory (KECI): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
Taiwan Chemical Substances Inventory (TCSI): Not determined.
Thailand inventory: Not determined.
Turkey inventory: Not determined.
Vietnam inventory: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	3
Flammability		3
Physical hazards		0

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	On basis of test data
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION - Category 1B	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

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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)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

