SAFETY DATA SHEET

E41N1

Section 1. Identification

Product name : KROMIK® Metal Primer
Red Oxide

Product code : E41N1

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 : THE SHERWIN-WILLIAMS COMPANY
101 W. Prospect Avenue
Cleveland, OH 44115

Emergency telephone number of the company : US / Canada: (800) 424-9300
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

Product Information Telephone Number : US / Canada: (800) 524-5979
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 3
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 1A
TOXIC TO REPRODUCTION - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
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: 24% (oral), 24% (dermal), 24% (inhalation)

GHS label elements

Hazard pictograms :



Signal word : Danger

Section 2. Hazards identification

Hazard statements : Flammable liquid and vapor.
May be fatal if swallowed and enters airways.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause cancer.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure. (lungs)

Precautionary statements

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 explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. 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. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention.

Storage : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

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.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Talc	≥25 - ≤50	14807-96-6
Light Aliphatic Hydrocarbon	≥10 - ≤25	64742-47-8
Iron oxide	≤10	1332-37-2
Zinc Oxide	≤5	1314-13-2
Iron Oxide	≤5	1309-37-1
Methyl Ethyl Ketoxime	<1	96-29-7
Crystalline Silica, respirable powder	<1	14808-60-7
Hydrotreated Heavy Petroleum Naphtha	≤1	64742-48-9
Zirconium 2-Ethylhexanoate	≤0.3	22464-99-9
Hydrotreated Heavy Petroleum Naphtha	≤0.3	64742-48-9
Cobalt 2-Ethylhexanoate	≤0.3	136-52-7
Med. Aliphatic Hydrocarbon Solvent	≤0.3	64742-88-7

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.

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 : No known significant effects or critical hazards.

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

Skin contact : May cause an allergic skin reaction.

Section 4. First aid measures

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

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
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 : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

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, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : 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
phosphorus 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. 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. 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. 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. Contaminated absorbent material may pose the same hazard as the spilled product. 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). 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

Section 7. Handling and storage

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 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
Talc	14807-96-6	**NIOSH REL (United States, 10/2020).** TWA: 2 mg/m³ 10 hours. Form: Respirable fraction **ACGIH TLV (United States, 1/2023).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction
Light Aliphatic Hydrocarbon	64742-47-8	**ACGIH TLV (United States, 1/2023). [Kerosene as total hydrocarbon vapor] Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.
Iron oxide	1332-37-2	**OSHA PEL (United States, 5/2018). [Iron oxide fume]** TWA: 10 mg/m³ 8 hours. Form: Fume
Zinc Oxide	1314-13-2	**NIOSH REL (United States, 10/2020).** CEIL: 15 mg/m³ Form: Dust TWA: 5 mg/m³ 10 hours. Form: Dust and fumes STEL: 10 mg/m³ 15 minutes. Form: Fume **OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. Form: Fume TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 1/2023).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction STEL: 10 mg/m³ 15 minutes. Form: Respirable fraction
Iron Oxide	1309-37-1	**NIOSH REL (United States, 10/2020).**

Section 8. Exposure controls/personal protection

		TWA: 5 mg/m³, (as Fe) 10 hours. Form: Dust and fumes **ACGIH TLV (United States, 1/2023).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction **OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
Methyl Ethyl Ketoxime	96-29-7	**OARS WEEL (United States, 4/2022). Skin sensitizer.** TWA: 10 ppm 8 hours.
Crystalline Silica, respirable powder	14808-60-7	**OSHA PEL Z3 (United States, 6/2016).** TWA: 250 mppcf / (%SiO2+5) 8 hours. Form: Respirable TWA: 10 mg/m³ / (%SiO2+2) 8 hours. Form: Respirable **OSHA PEL (United States, 5/2018). [Silica, crystalline]** TWA: 50 µg/m³ 8 hours. Form: Respirable dust **ACGIH TLV (United States, 1/2023). [Silica, crystalline]** TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction **NIOSH REL (United States, 10/2020). [SILICA, CRYSTALLINE (AS RESPIRABLE DUST)]** TWA: 0.05 mg/m³ 10 hours. Form: respirable dust
Hydrotreated Heavy Petroleum Naphtha Zirconium 2-Ethylhexanoate	64742-48-9 22464-99-9	None. **ACGIH TLV (United States, 1/2023). [Zirconium and compounds as Zr]** TWA: 5 mg/m³, (as Zr) 8 hours. STEL: 10 mg/m³, (as Zr) 15 minutes. **NIOSH REL (United States, 10/2020). [zirconium compounds as Zr]** TWA: 5 mg/m³, (as Zr) 10 hours. STEL: 10 mg/m³, (as Zr) 15 minutes. **OSHA PEL (United States, 5/2018). [Zirconium compounds (as Zr)]** TWA: 5 mg/m³, (as Zr) 8 hours.
Hydrotreated Heavy Petroleum Naphtha Cobalt 2-Ethylhexanoate	64742-48-9 136-52-7	None. **ACGIH TLV (United States, 1/2023). [cobalt and inorganic compounds as Co] Skin sensitizer. Inhalation sensitizer.** TWA: 0.02 mg/m³, (as Co) 8 hours.
Med. Aliphatic Hydrocarbon Solvent	64742-88-7	**OSHA PEL (United States, 5/2018). [Naphtha (Coal tar)]** TWA: 100 ppm 8 hours. TWA: 400 mg/m³ 8 hours.

Occupational exposure limits (Canada)

Section 8. Exposure controls/personal protection

Ingredient name	CAS #	Exposure limits
talc (none asbestiform)	14807-96-6	**CA British Columbia Provincial (Canada, 6/2022). Notes: the value is for particulate matter containing no asbestos and less than 1% crystalline silica.** TWA: 2 mg/m³ 8 hours. Form: Respirable **CA Quebec Provincial (Canada, 6/2022).** TWAEV: 2 mg/m³ 8 hours. Form: Respirable dust. **CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 2 mg/m³ 8 hours. Form: Respirable particulate **CA Ontario Provincial (Canada, 6/2019).** TWA: 2 mg/m³ 8 hours. Form: Respirable particulate matter. TWA: 2 f/cc 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** TWA: 2 mg/m³ 8 hours. Form: respirable fraction
Petroleum refining, hydrotreated light distillate	64742-47-8	**CA British Columbia Provincial (Canada, 6/2022). [Kerosene/Jet fuels as total hydrocarbon vapour] Absorbed through skin. Notes: Application restricted to conditions in which there are negligible aerosol exposures.** TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. **CA Alberta Provincial (Canada, 6/2018). [Kerosene/Jet fuels as total hydrocarbon vapour] Absorbed through skin.** 8 hrs OEL: 200 mg/m³, (as total hydrocarbon vapour) 8 hours. **CA Ontario Provincial (Canada, 6/2019). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours.
Zinc Oxide	1314-13-2	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 2 mg/m³ 8 hours. Form: Respirable 15 min OEL: 10 mg/m³ 15 minutes. Form: Respirable **CA British Columbia Provincial (Canada, 6/2022).** TWA: 2 mg/m³ 8 hours. Form: Respirable STEL: 10 mg/m³ 15 minutes. Form: Respirable **CA Quebec Provincial (Canada, 6/2022).** TWAEV: 2 mg/m³ 8 hours. Form: Respirable dust. STEV: 10 mg/m³ 15 minutes. Form: Respirable dust. **CA Ontario Provincial (Canada, 6/2019).** TWA: 2 mg/m³ 8 hours. Form: Respirable particulate matter. STEL: 10 mg/m³ 15 minutes. Form:

Section 8. Exposure controls/personal protection

		Respirable particulate matter. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 10 mg/m³ 15 minutes. Form: respirable dust and fume TWA: 2 mg/m³ 8 hours. Form: respirable dust and fume
Methyl Ethyl Ketoxime	96-29-7	**OARS WEEL (United States, 4/2022). Skin sensitizer.** TWA: 10 ppm 8 hours.
Quartz	14808-60-7	**CA British Columbia Provincial (Canada, 6/2022). [Silica, Crystalline - alpha quartz and Cristobalite Respirable]** TWA: 0.025 mg/m³ 8 hours. Form: Respirable **CA Quebec Provincial (Canada, 6/2022). [Silica Crystalline -Quartz]** TWAEV: 0.1 mg/m³ 8 hours. Form: Respirable dust. **CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 0.025 mg/m³ 8 hours. Form: Respirable particulate **CA Ontario Provincial (Canada, 6/2019). [Silica, Crystalline (Quartz/Tripoli)]** TWA: 0.1 mg/m³ 8 hours. Form: Respirable particulate matter. **CA Saskatchewan Provincial (Canada, 7/2013).** TWA: 0.05 mg/m³ 8 hours. Form: respirable fraction
Zirconium 2-Ethylhexanoate	22464-99-9	**CA Alberta Provincial (Canada, 6/2018). [Zirconium and compounds as Zr]** 8 hrs OEL: 5 mg/m³, (as Zr) 8 hours. 15 min OEL: 10 mg/m³, (as Zr) 15 minutes. **CA British Columbia Provincial (Canada, 6/2022). [Zirconium and compounds as Zr]** TWA: 5 mg/m³, (as Zr) 8 hours. STEL: 10 mg/m³, (as Zr) 15 minutes. **CA Quebec Provincial (Canada, 6/2022). [Zirconium and compounds]** TWAEV: 5 mg/m³, (as Zr) 8 hours. STEV: 10 mg/m³, (as Zr) 15 minutes. **CA Ontario Provincial (Canada, 6/2019). [Zirconium and compounds as Z]** STEL: 10 mg/m³, (as Zr) 15 minutes. TWA: 5 mg/m³, (as Zr) 8 hours.
Cobalt 2-Ethylhexanoate	136-52-7	**CA British Columbia Provincial (Canada, 6/2022). [cobalt and inorganic compounds as Co, Inhalable] Skin sensitizer. Inhalation sensitizer. Notes: No British Columbia exposure limit at this time** **CA British Columbia Provincial (Canada, 6/2022). [Cobalt and inorganic compounds as Co, Total] Skin sensitizer. Inhalation sensitizer.** TWA: 0.02 mg/m³, (as Co, Total) 8 hours.

		CA Quebec Provincial (Canada, 6/2022). [Cobalt elemental, and inorganic compounds] Skin sensitizer. Inhalation sensitizer. TWAEV: 0.02 mg/m³, (as Co) 8 hours. **CA Ontario Provincial (Canada, 6/2019). [Cobalt and inorganic compounds as Co]** TWA: 0.02 mg/m³, (as Co) 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013). [Cobalt and inorganic compounds as Co]** STEL: 0.06 mg/m³, (measured as Co) 15 minutes. TWA: 0.02 mg/m³, (measured as Co) 8 hours.

Occupational exposure limits (Mexico)

	CAS #	Exposure limits
Light Aliphatic Hydrocarbon	64742-47-8	**ACGIH TLV (United States, 1/2023). [Kerosene as total hydrocarbon vapor] Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.
Zinc Oxide	1314-13-2	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction STEL: 10 mg/m³ 15 minutes. Form: Respirable fraction
Zirconium 2-Ethylhexanoate	22464-99-9	**NOM-010-STPS-2014 (Mexico, 4/2016). [Zirconium compounds]** TWA: 5 mg/m³, (as Zr) 8 hours. STEL: 10 mg/m³, (as Zr) 15 minutes.
Cobalt 2-Ethylhexanoate	136-52-7	**NOM-010-STPS-2014 (Mexico, 4/2016). [Cobalt and inorganic compounds]** TWA: 0.02 mg/m³, (as Co) 8 hours.

Biological exposure indices (United States)

Ingredient name	Exposure indices
Cobalt 2-Ethylhexanoate	**ACGIH BEI (United States, 1/2023) [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.

Biological exposure indices (Canada)

No exposure indices known.

Biological exposure indices (Mexico)

Section 8. Exposure controls/personal protection

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) [cobalt and its compounds]** 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 valu; 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 valu], 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: safety glasses with side-shields.

Skin protection

Section 8. Exposure controls/personal 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 : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Boiling point, initial boiling point, and boiling range : 148°C (298.4°F)

Flash point : Closed cup: 46°C (114.8°F) [Pensky-Martens Closed Cup]

Evaporation rate : 0.13 (butyl acetate = 1)

Flammability : Flammable liquid.

Lower and upper explosion limit/flammability limit : Lower: 1%
Upper: 6%

Vapor pressure : 0.17 kPa (1.27 mm Hg)

Relative vapor density : 5 [Air = 1]

Relative density : 1.33

Solubility(ies) :

Media	Result
cold water	Not soluble

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): <20.5 mm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Section 9. Physical and chemical properties

Heat of combustion : 10.532 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	Species	Dose	Exposure
Methyl Ethyl Ketoxime	LD50 Oral	Rat	930 mg/kg	-
Hydrotreated Heavy Petroleum Naphtha	LC50 Inhalation Vapor	Rat	8500 mg/m³	4 hours
Zirconium 2-Ethylhexanoate	LD50 Oral	Rat	>6 g/kg	-
	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	>5 g/kg	-
Hydrotreated Heavy Petroleum Naphtha	LC50 Inhalation Vapor	Rat	8500 mg/m³	4 hours
Cobalt 2-Ethylhexanoate	LD50 Oral	Rat	>6 g/kg	-
	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	1.22 g/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Talc	Skin - Mild irritant	Human	-	72 hours 300 ug l	-
Zinc Oxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Methyl Ethyl Ketoxime	Eyes - Severe irritant	Rabbit	-	100 uL	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Section 11. Toxicological information

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Talc	-	3	-
Iron Oxide	-	3	-
Crystalline Silica, respirable powder	+	1	Known to be a human carcinogen.
Cobalt 2-Ethylhexanoate	-	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Light Aliphatic Hydrocarbon	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Methyl Ethyl Ketoxime	Category 1	-	upper respiratory tract
	Category 3		Narcotic effects
Hydrotreated Heavy Petroleum Naphtha	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Med. Aliphatic Hydrocarbon Solvent	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Talc	Category 1	inhalation	lungs
Light Aliphatic Hydrocarbon	Category 2	-	-
Methyl Ethyl Ketoxime	Category 2	-	blood system
Crystalline Silica, respirable powder	Category 1	inhalation	-
Hydrotreated Heavy Petroleum Naphtha	Category 2	-	-
Med. Aliphatic Hydrocarbon Solvent	Category 1	-	-

Aspiration hazard

Name	Result
Light Aliphatic Hydrocarbon	ASPIRATION HAZARD - Category 1
Hydrotreated Heavy Petroleum Naphtha	ASPIRATION HAZARD - Category 1
Hydrotreated Heavy Petroleum Naphtha	ASPIRATION HAZARD - Category 1
Med. Aliphatic Hydrocarbon Solvent	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 : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Section 11. Toxicological information

Skin contact : 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 : No specific data.

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
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.

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 : 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 : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : May damage fertility.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Light Aliphatic Hydrocarbon	Acute LC50 2200 µg/l Fresh water	Fish - *Lepomis macrochirus*	4 days
Zinc Oxide	Acute IC50 1.85 mg/l Marine water	Algae - *Skeletonema costatum*	96 hours
	Acute LC50 98 µg/l Fresh water	Daphnia - *Daphnia magna* - Neonate	48 hours
	Acute LC50 1.1 ppm Fresh water	Fish - *Oncorhynchus mykiss*	96 hours
Methyl Ethyl Ketoxime	Acute LC50 843000 µg/l Fresh water	Fish - *Pimephales promelas*	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hydrotreated Heavy Petroleum Naphtha	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Zinc Oxide	-	28960	High
Methyl Ethyl Ketoxime	-	2.5 to 5.8	Low
Hydrotreated Heavy Petroleum Naphtha	-	10 to 2500	High
Zirconium 2-Ethylhexanoate	-	2.96	Low
Hydrotreated Heavy Petroleum Naphtha	-	10 to 2500	High
Cobalt 2-Ethylhexanoate	-	15600	High

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. 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. Marine pollutant (Light Aliphatic Hydrocarbon, Zinc Oxide)
Transport hazard class(es)	3 	3 	3 	3 	3  
Packing group	III	III	III	III	III
Environmental hazards	No.	No.	No.	Yes. The environmentally hazardous substance mark is not required.	Yes.
Additional information	This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials. **ERG No.** 128	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3). **ERG No.** 128	- **ERG No.** 128	The environmentally hazardous substance mark may appear if required by other transportation regulations.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules** 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.

Section 14. Transport information

Transport in bulk according to IMO instruments : Not available.

Proper shipping name : Not available.

Section 15. Regulatory information

SARA 313

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

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.

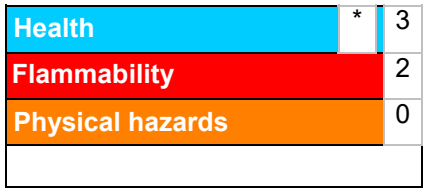
Stockholm Convention on Persistent Organic Pollutants

Not listed.

International lists : **Australia inventory (AIIC)**: 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.)



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 3	On basis of test data
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 1A	Calculation method
TOXIC TO REPRODUCTION - Category 1B	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	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

History

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Version : 24

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.