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March 6, 2024

BY EMAIL

Planning Commission
c/o Phil Stenback
Jefferson County Community Development Department
85 SE "D" Street
Madras, OR 97741

RE: Three Rivers Landowners Association, Inc. Additional Public Comment on Beaver Meadows LLC's Home Occupation Application, Casefile No. 23-AR-03

Dear Chair Locke and Planning Commissioners,

As you know, this office represents the Three Rivers Landowners Association, Inc. ("Association" or "TRLA"). This letter is submitted in continued opposition to the application submitted by Beaver Meadows LLC (the "Applicant" or "Beaver Meadows") referenced as County Casefile No. 23-AR-03, which involves the property located at 11960 SW Meadows Lane, Culver, OR 97734 (the "Residential Lot"). Please include this letter in the record for the above referenced file.

This letter incorporates additional information from the Association's expert Hudspeth Land+Water ("HLW"), included as Attachment 1.

Ultimately, the February 8, 2024 hearing left the Association with more questions than answers regarding the metal coating business proposed to as a home occupation within the Three Rivers Recreation Area – a gated residential and recreational community. The Association's primary concern remains fire safety. By all accounts – the Applicant's statements and all instruction about the use of Cerakote – the proposed metal coating business must use a Class 1 flammable, Acetone, to operate. Some of the Applicant's statements in prior correspondence stated Acetone was used to clean the metal items prior to coating, while other comments by the Applicant's experts stated that Acetone was only used to clean the nozzles. As a necessary chemical to the metal coating process, the increased flammability and danger associated with Acetone is when it is released in the air. Attachment 1. Do not be mistaken, Acetone does not just evaporate, rather it becomes volatized when released to the air and the tiniest of sparks could produce fire.

Accidents happen, and any commercial operation proposing to operate in a residential and recreational community needs to adequately protect its neighboring community from not only the everyday normal operational concerns, but also the worst-case scenario concerns. This is one of

the reasons uses such as the proposed metal coating business are located in industrial zones away from residential neighborhoods. It is not just the normal fumes that may emit in the course of business, but the increased risk and the increased destruction that can occur in operations that use a Class 1 flammables in violation of the code that is of most concern to the Association. See JCZO 410.2.E.

In addition to regular use and storage of Acetone, this operation will require the transportation of far more Acetone in and out of this recreational and residential neighborhood. Such transport of Class 1 flammables would not occur without this business. The community has a commercial waterfront zone (TRAW), where certain businesses that may present a different degree of risk can locate safely without increasing risks to surrounding homes in the event of an accident or fire. But even the TRAW zone would not allow this manufacturing business.

Other chemical solvents will be used and associated waste materials created in the business as described by HLW. Attachment 1. As the expert report shares, these materials will create hazardous waste. The generic statement by the Applicant that the waste would be taken to the dump is insufficient to explain away the risk. First, the materials cannot be disposed of in Jefferson County, which only has a transfer station. Therefore, under this proposal, the hazardous waste will need to be trucked out in some way, meaning additional traffic through this residential and recreational neighborhood to serve a business. Further, the presence of hazardous materials also raises the potential for spills and releases to the environment that would also cause serious health and safety concerns, including potential contamination of wells. Attachment 1. Without a complete hazardous waste disposal plan, the full impacts of this use cannot be assessed.

The operation of a manufacturing business which is applying commercial coating products and is not connected to a sanitary sewer under an industrial pretreatment permit is of great public health, safety and environmental concern. Attachment 1. If this type of facility was located in town, the Public Works Department through the sanitary sewer connection would likely have the business operate under an Industrial Pretreatment Permit for chemical use and/or waste strength. Attachment 1. This need for proper sewage is underscored by the necessary power washing of the paint booth which will create approximately 80 gallons of process wastewater at each cleaning, as well as a washer and dryer in the shop that is not allowed to be hooked to the existing septic system. Attachment 1. Disposing of this chemical residue on the ground inside of Three Rivers recreational and residential community is not permissible. The type of septic system that would be needed to serve this business is not the kind of building allowed in the TRRA. This substandard building for manufacturing is not otherwise allowed in the zone. JCZO 410.2.B. See OAR 340-071-0100, and excerpts specifically referenced in Attachment 1. Again, this proposal violates JCZO 410.2.B because the business cannot be served by the infrastructure of this residential neighborhood.

As described in its February 8, 2024 letter, all lots in the TRRA are burdened by recorded CCRs and Bylaws. Under the CCRs, all improvements within the TRRA must be approved by the Association's Architectural Committee. The Applicant does not have the Association's approval to operate this metal coating business. Nor did the Applicant acquire approval to build a fenced enclosure around the metal coating shop's generator.

TOMASI BRAGAR DUBAY

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The evidence regarding the coating process and chemicals involved with the proposed use present an unreasonable fire and environmental hazard, among other deficiencies. The Association requests this home occupation application be denied. With the submittal of this HLW expert report, the Association has directed me to withdraw its requested seven and seven request, to allow for additional response to open record evidence and seven day final written argument by applicant. TRLA provides this report with ample time for the Planning Commission to consider its content and requests the Planning Commission reach a decision at its March 14, 2024 scheduled meeting.

Sincerely,



Jennifer M. Bragar

Enclosures

cc: (all by email)
Tanya Cloutier
Michael Peterkin
Wendie Kellington
client

TO: Jefferson County Planning Commission

FROM: Amber Hudspeth, Hudspeth Land+Water

CC: Jennifer Bragar

DATE: February 22, 2024

The Three Rivers Landowners Association ("Association") retained the services of Hudspeth Land+Water (HLW) to review the application materials and testimony provided to date regarding Beaver Meadows LLC's Home Occupation Application, Jefferson County Casefile No. 23-AR-03. HLW has been evaluating the potential home operation of a commercial manufacturing business to be located in the Three Rivers Subdivision, Culver, Oregon. The site includes a travel trailer, garage and a shop in addition to several other small shed type buildings. The site has no municipal utilities available. Drinking water is provided by water delivery to a cistern, power is manufactured through a generator, heat is generated through the use of propane in the shop and the dwelling that previously existed, and the travel trailer are serviced by a residential permitted and sized septic system.

A review of the Cerakote products and process as well as supporting products and associated materials. Through the review of the processes a number of waste streams have also been identified. The following analysis assesses the increased risk from the proposed home occupation to existing residential and recreational use of the Three Rivers community. First, JCZO 410.2.E prohibits the use of Class 1 flammables, like acetone, in a home occupation. The Association's February 8, 2024, submittal establishes their concerns about the use of acetone and further support is provided here. Second, a summary of Applicant statements about the proposed Cerakote product are discussed that only open more questions about how the occupation can be run from a residential neighborhood, in a building and location not designed for industrial manufacturing. Overall, the site lacks the necessary infrastructure to allow safe use for a Cerakote operation in a residential and recreational neighborhood.

Volatile Organic Compounds

Volatile organic compounds, or VOCs, are organic chemical compounds whose composition makes it possible for them to evaporate under normal indoor atmospheric conditions of temperature and pressure. This is the general definition of VOCs that is used in scientific literature, and is consistent with the definition used for indoor air quality. Since the volatility of a compound is generally higher the lower its boiling point temperature, the volatility of organic compounds is sometimes defined and classified by their boiling points. -*EPA Indoor Air Quality Definition*

HUDSPETH LAND+WATER

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The higher the volatility (lower the boiling point), the more likely the compound will be emitted from a product or surface into the air. Volatility is indicated by a substance's vapor pressure. It is a tendency of a substance to vaporize or the speed at which it vaporizes. Substances with higher vapor pressure will vaporize more readily at a given temperature than substances with lower vapor pressure. So, volatilization is the process of turning the liquid acetone into a vapor particle and physically removing it from the liquid state.

The Applicant has used non-technical terms in a way to avoid discussing the risk of Class 1 flammables. One such Applicant statement is that acetone simply disappears when it is open to the air. However, acetone does not just disappear. Rather, as acetone dissipates into the air, it turns into little droplets of acetone floating all around the user. This release increases the flammability of the product in the air and the area it is used in through aerating the product. When the release to air occurs, acetone is at its most flammable. The Association's concerns about any acetone use as part of a home occupation are legitimate as even the tiniest spark could produce fire as the chemical is released into the air.

Cerakote Product Volume and Associated Chemical Volumes

Cerakote is a brand with a line of industrial coatings and supporting products used to prepare a unit to be Cerakoted. Generally, the applicator covers the unit with Cerakote and possibly seals the Cerakote finish. Additionally, there are a number of chemicals used to prepare the units for the finish and to clean up after the unit has been coated with Cerakote.

The evolution of the discussion of the process continues to change with each speaker on behalf of the Applicant. Depending on the speaker, a different explanation is provided about the number of units serviced, equipment being used, and products being coated in a week time frame. To date, the Applicant has not developed a record that establishes which Cerakote products will be used and in what volume. This failure to provide sufficient information means that an evaluation of the process and waste products created from these processes is yet undefined.

The italicized information are statements and summaries of statements made in the record about the proposed Cerakote product usage.

How Many Units Per Week

John says 30 units a week and Brett says 30-90 units a week, in a busy week- a 300% difference.

The Applicant testified that 1/8 cup of acetone is used for each coating of Cerakote. At 30 units a week and 1/8 cup of acetone per unit that is a chemical use of 11.25 gallons of acetone a year which would be increased by the volume of waste acetone and Cerakote residue added to the original chemical.

At 90 pieces a week and 1/8 cup of acetone per unit that is a chemical use of 33.75 gallons a year which would be increased by the volume of waste acetone and Cerakote residue added to the original chemical. This volume is substantially over the one gallon a month acetone threshold previously discussed.

Which Cerakote Products Are Being Used? And In What Volumes?

The following are the primary Cerakote series of products for application per the Cerakote website.

E series- oven cure
H series- oven cure
C series- air cure
V series- oven cure
Performance Cures- air and oven cure
Specialty Coatings- air and oven

These are chemicals of concern to humans and the environment. All Cerakote series have varying degrees of:

- corrosion resistance;
- durability;
- flammability and firefighting media recommendations;
- environmental hazards and accidental release measure;
- containment and cleanup and exposure controls; and
- ecological toxicity and disposal considerations etc.

The record is silent about the supporting products for the preparation and finishing of the Cerakote products. The Association included videos showing that Cerakote requires several steps and solvents to prepare units for the coating, yet the Application is silent about these processes. *Ms. Kellington stated at the February 8, 2024 hearing that there is "nothing environmentally harmful" associated with the application of Cerakote and on the site.*

The Cerakote website referenced many typical products and Safety Data Sheets (SDS) sheets have been provided. Typical products include Cerakote H/HR/Elite Series Catalyst: Part B, Cerakote Headlight Step 1: Oxidation Remover, and Tert-butyl acetate. See descriptions in Attachment A.

Cerakote H/HIR/Elite Series Catalyst: Part B

This product's hazard codes include- acute toxicity oral and dermal, skin corrosion and irritation, serious eye damage, skin sensitization, germ cell mutagenicity and specific target organ toxicity with repeated exposure.

The waste disposal method is to have a licensed professional waste disposal service dispose of this material and its packaging.

Cerakote Headlight Step 1: Oxidation Remover

The environmental precautions for this product include **keeping away from drains, surface and groundwater** and retaining contaminated washing water and disposing of it.

Tert-butyl acetate

The cleaning preparation calls for flooding the surface with tert-butyl acetate and then wiping with a clean lint-free rag until no residue is observed.

The waste product information states to utilize solvent reclamation and regeneration methods. And the **waste containers should be Department of Transportation Approved**. Any contaminated packaging should be handled in the same way as the waste product.

These products all have the potential to harm the environment and require proper storage and waste disposal. Proper waste disposal has not been addressed for these products or any of the varying Cerakote coating products. Based on the uncertainty of products to be used there are additional considerations for storage aside from Applicant's tacit mention of a fireproof cabinet for chemical storage in the shop. Chemical storage is complicated and there are many chemical types that must not be stored together. Flammables like acetone, but also to include other especially toxic materials and combustibles must be kept away from oxidizers. Storage must keep corrosives away from substances that may react with and release corrosive, toxic or flammable vapors. Knowledge of proper chemical segregation and storage is imperative for safety. See Attachment B.

In addition, a video on the Cerakote website shows a clean out procedure using a squeeze bottle and liquid assumed to be acetone to clean the paint gun after use for coating (some of this process and use of wipes is shown in the Cerakote wash bottle video already in the record). The process uses wipes to collect material waste. The record does support the idea that hazardous waste will be collected and must be disposed of properly. This cleaning process also includes an acetone product and a stainless-steel waste container to contain the liquid waste. The waste is combination of the acetone and the Cerakote product washed from the paint gun into the stainless-steel waste container. This waste product will have to be disposed of at a solvent approved facility or picked up by a company that service the pickup and disposal of industrial waste.

Disposal of Contaminated Products and Hazardous Waste

John Francis stated that any waste will be collected and taken to dump to be placed according to hazardous materials rules at dump.

Jefferson County does not have a landfill- it has a transfer station. This means that no solid waste can be disposed of onsite, and everything is getting sorted and disposed of after being transported to another facility.

The two closest landfill facilities are located in adjacent counties in Central Oregon. The Crook County Landfill in Prineville is not a hazardous waste landfill and does accept residential special waste but not commercial waste. Crook County does not accept liquid solvent waste disposal or solvent rags.

The Deschutes County's Knott Landfill in Bend is not a hazardous waste landfill but does accept residential special waste. Business commercial special and hazardous waste can be disposed of through Knott Landfill under special application. The waste is not disposed of at Knott Landfill but is coordinated at the landfill site for the eventual disposal through Clean Earth, a professional waste handling and disposal company. Knott Landfill does not accept liquid solvent waste disposal or solvent rags.

The nearest hazardous waste disposal location is the Arlington facility operated by Waste Management. The rags used in the cleaning of the Cerakote process can either be professionally laundered if a local company is licensed to process them or they can be disposed of at the Arlington facility under permit. A requirement of the disposal process is that the rags and rag container cannot have free liquid present in the container. There are numerous other rules under this policy, and they are not being fully identified or assessed on this record. Among these rules is the general prohibition of disposing of commercial manufacturing waste product that if disposed of properly, is not able to be disposed of in the county of origin. This cannot be accomplished by the operators showing up at an out of county landfill with this waste product. Therefore, additional assessment is required to understand the full scope of impact of this use on the residential and recreational Three Rivers community.

Note, the waste is associated with a business, and cannot be classified as household hazardous waste under ORS 459.005. Without a complete hazardous waste disposal plan, the full impacts of this use cannot be assessed.

The Oregon Department of Environmental Quality ("DEQ") has rules for the use storage and disposal of rags and wipes in the hazardous waste regulations. The wipes and rags can be excluded from the hazardous waste regulation if they are managed under the

wipes and rag rule. This includes the required laundering of the wipes and rags or the disposal of the wipes and rags at a hazardous waste landfill facility. Nothing in this record establishes proper waste removal for the hazardous materials accumulated onsite as part of this proposed business. See Attachment C.

On-Site Septic System

Communications with the Jefferson County On-site Septic Program staff have provided the septic system assessment and supporting permitting documents for review. Through this process and assessment, it was noted that a temporary trailer was approved for septic connection due to the dwelling burning down on site. Additionally, it was identified that the shop structure has not been approved for connection to the septic system. See Attachment D.

The onsite septic system is sized for a residential dwelling with a 450-gallon per day septic load of residential waste. Residential strength waste is defined by the Department of Environmental Quality (DEQ) in Oregon Administrative Rule 340-071-0100 which is set forth below. Septic systems that have high strength waste or higher than residential average volumes of waste require additional components and permits for the operation of the septic system.

A commercial or industrial manufacturing operation would be considered to have high strength and higher volume waste and does not qualify for residential sizing and configuration. Nothing in the application addresses the need for septic or other drainage of the materials associated with the proposed business.

Oregon Administrative Rule 340-071-0100

(123) "Residential Strength Wastewater" means septic tank effluent that does not typically exceed five-day biochemical oxygen demand (BOD5) of 300 mg/L; total suspended solids (TSS) of 150 mg/L; total Kjeldahl nitrogen (TKN) of 150 mg/L; oil & grease of 25 mg/L; or concentrations or quantities of other contaminants normally found in residential sewage.

(b) The following systems must be constructed and operated under a renewable WPCF permit issued pursuant to OAR 340-071-0162:

(A) Any system or combination of systems located on the same property or serving the same facility and having a total sewage flow design capacity greater than 2,500 gpd. Flows from single family residences or equivalent flows on separate systems incidental to the purpose of (the large system or combination of systems (e.g., caretaker residence for a mobile home park) need not be included;

(B) A system of any size, if the septic tank effluent produced is greater than residential strength wastewater as defined in OAR 340-071-0100 or systems using pretreatment methods other than grease traps and grease interceptor tanks to achieve residential strength wastewater;

(85) "Industrial Waste" means any liquid, gaseous, radioactive, or solid waste or a combination thereof resulting from any process of industry, manufacturing, trade, or business or from developing or recovering any natural resources.

(89) "Large System" means any onsite system with a projected daily sewage flow greater than 2,500 gallons.

(97) "Onsite Wastewater Treatment System" means any existing or proposed subsurface onsite wastewater treatment and dispersal system including but not limited to a standard subsurface, alternative, experimental, or nonwater-carried sewage system. It does not include systems that are designed to treat and dispose of industrial waste as defined in OAR chapter 340, division 045.

The operation of a manufacturing business which is applying commercial coating products and is not connected to a sanitary sewer under an industrial pretreatment permit is of great environmental concern. If this type of facility was located in town, the Public Works Department through the sanitary sewer connection would likely have the business operate under an Industrial Pretreatment Permit for chemical use and/or waste strength.

Mobile Environmental Solutions Paint Booth

The *Mobile Environmental Solutions* paint booths are marketed as the leader in mobile paint booth solutions. They are said to feature an exclusive air-flow system and 360* of ambient light. They are a temporary vinyl blow structure much like a children's bouncy house but with windows and positive air flow. This means a pump blows up the structure and then air is sucked in and driven across the paint surface from one side to the other. There are inlet filters to clean the air coming into the unit to keep dust out. There is also an exhaust filter which is made of an undisclosed material. The air flow is pushed across this filter before exiting the temporary vinyl structure.

The larger environmental issue appears to be the necessary maintenance of the paint booth which includes the internal pressure washing of the temporary vinyl paint booth. This is another example of the fact that the operation of a commercial coating operation should not be performed at a location without a connection to the sanitary sewer. In the video on the Cerakote website is detailed 5 minute and 6 second video how to pressure wash the inside of your paint booth. In the video they used a 40* pressure wand tip and gas-powered pressure washer. One could conservatively assume it was at least a 2500

pounds per square inch (psi) pressure washer and so with a 40* it would be operating at between 3 to 4 gallons per minute (gpm) of water flow creating approximately 80 gallons of process wastewater from the cleaning.

The record contains statements that the paint booth will be used both indoors and outdoors. No information is provided about where the paint booth will be cleaned. If the booth cleaning occurs outside, there is no appropriate drainage system or location or connection to a sanitary waste system in which to dispose of this wastewater product.

Eight Fire Extinguishers

The Fire Chief Mr. Don Colfels mentioned that there were 8 fire extinguishers in the shop.

- One has to ask themselves why?
- There is only going to be one staff person in the shop and person can only operate 1 fire extinguisher at a time
- Are they different types of extinguishers?
- Based on the potential fire fighting requirements of all of the different Cerakote products and the recommended methods of fire fighting for the different products?
- Are they for the potential volatilization of the acetone in the shop?
- Or for the VOC vapors for the paint booth?
- Or the solvent covered wipes and rags
- *this suggests the known potential for an issue*

Area Drinking Water and Regional Hydrology

The site is located on the eastern horizon of the Cascades in the high desert plains of Central Oregon. Typical vegetation in the area includes juniper trees, sage brush, rabbit brush and assorted grasses.

A review of the Oregon Water Resources Department (OWRD) database shows a number of wells in the area. According to OWRD four drinking wells have been identified and reviewed within 1/3 to 1-2-mile of the site. The well depths of the surrounding wells vary from 650-feet' to 810-feet below ground surface (bgs). There is approximately 1000-feet of elevation drop from the site to the water of Lake Billy Chinook. These elevations tell us that there is a water table present approximately 300-feet above the level of the Lake. The wells' soils, as identified in the OWRD well log submitted by the well driller at the time the well is constructed, suggest varying levels of permeability through the soils to the water table. See Attachment E.

Processed wastewater, solvents and any other aqueous products disposed of outside will infiltrate the soil and work toward (i.e. permeate) the water table. This possible interface of the wastewater and soil at the ground surface is why DEQ has established clean up values as discussed above.

Potential paths for contamination of the groundwater table are through the soils and fissures in the soils and through the subsurface rocks.

Graywater Permitting

Under Oregon law, graywater includes wastewater discharged from showers and bathtubs, bathroom sinks, kitchen sinks and laundry machines. Graywater does not include toilet discharge, garbage wastes (kitchen sinks with garbage disposal units) or wastewater contaminated by soiled diapers.

Graywater can be contaminated with organic matter, suspended solids or potentially pathogenic microorganisms.

The Association received information that there is a washer and dryer in the shop. The application does not provide the source of clean water for the washing machine or a description of where the greywater (used water) from the washing machine is draining.

There is a Graywater permitting program through the DEQ.

- The Graywater permit requires the system to be connected to the septic system or the sanitary sewer if available
 - As established by correspondence with the county, the shop is not to be connected to the on-site residential septic system
 - Any use of the washer and dryer in connection with the occupation raises environmental concerns about washing solvent saturated rags and releasing hazardous materials that have been described at length and earlier in this analysis.

Conclusion

This public review process has enabled the Association to raise serious public health, safety and environmental concerns about the placement of an industrial manufacturing business in a residential and recreational area. This neighborhood is not set up with the correct infrastructure fire safety, sewage, water, power, and supporting facilities to deal with the impacts from this business.

Attachments

- A: Cerakote Product Information
- B: Chemical Segregation and Storage Table
- C: Department of Environmental Quality Solvent-Contaminated Wipes Update
- D: Jefferson County staff email on on-site septic system
- E: Oregon Water Resources Department Drinking Water Well Logs

About the Author

Amber Hudspeth, CESCL, AHERA, HAZWOPER, HAZWOPER Supervisor

Ms. Hudspeth has a Bachelor of Science from Oregon State University in Crop Science and Soil Science. She has practiced as an inspector and environmental professional for 28 years. As part of her professional development, she was registered through the State of Oregon as a Sanitarian Trainee while working for Deschutes County in the Environmental Health Department On-Site Program. She is also a Certified Erosion and Sediment Control and Asbestos Hazard Emergency Response Act inspector.

She meets the definition of Environmental Professional as established in Part 312.10 of Title 40 of the Code of Federal Regulations (40 CFR 312.10) and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property.

HAZWOPER training course provides 40 hours of training that covers the OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) standards, for compliance with OSHA 29 CFR 1910.120(e) and 29 CFR 1926.65(e) regulations. The purpose of the course is to prepare workers involved in cleanup and emergency response operations to work safely in situations involving hazardous substances. HAZWOPER managers and supervisors who supervise or are directly responsible for employees at a hazardous waste site must complete additional specialized training.

Attachment A: Cerakote Product Information

Tert-butyl acetate

Version number: 2.1

Revision: 12/30/2022

SECTION 1: Identification

1.1 Product identifier

Identification of the substance

Tert-butyl acetate

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

Relevant identified uses

General use

1.3 Details of the supplier of the safety data sheet

NIC Industries, Inc
 7050 6th St.
 White City Oregon 97503
 United States

Telephone: 866-774-7628
 e-mail: sds@nicindustries.com
 Website: www.nicindustries.com

1.4 Emergency telephone number

Emergency information service

1-800-633-8253 (USA & Canada)

The information contained in this Safety Data Sheet (SDS) is, to the best of our knowledge, true and accurate and presented in good faith. NIC Industries, Inc. makes no warranties, expressed or implied, as to the accuracy and adequacy of this information. Because many factors may affect processing or application/use of this product, this data is offered solely for the user's consideration, investigation and verification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or process. Regulatory requirements are subject to change and may differ from one location to another. It is the responsibility of the buyer/user to ensure its activities comply with all local, state and federal regulations.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Hazard class and category code(s)

Classification acc. to GHS				
Section	Hazard class	Category	Hazard class and category	Hazard statement
B.6	Flammable liquid	2	Flam. Liq. 2	H225

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word **Danger**
- Pictograms

Tert-butyl acetate

Version number: 2.1

Revision: 12/30/2022

GHS02



- Hazard statements

H225 Highly flammable liquid and vapor.

- Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/eye protection/face protection.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container to industrial combustion plant.

2.3 Other hazards

Hazards not otherwise classified

Repeated exposure may cause skin dryness or cracking.
May be harmful if swallowed (GHS category 5: acutely toxic - oral).
May be harmful in contact with skin (GHS category 5: acutely toxic - dermal).
Harmful to aquatic life with long lasting effects (GHS category 3: aquatic toxicity - acute and/or chronic).

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	Tert-butyl acetate
CAS No	540-88-5

** Trade Secret: In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200(i) and in accordance with the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS), the specific identity and/or exact percentage (concentration) of the composition has been withheld as a "Trade Secret"

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Tert-butyl acetate

Version number: 2.1

Revision: 12/30/2022

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Dry extinguishing powder, BC-powder, Carbon dioxide (CO₂)

5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder.

Appropriate containment techniques

Use of adsorbent materials.

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Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- Specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapors are heavier than air, spread along floors and form explosive mixtures with air. Vapors may form explosive mixtures with air.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

- Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

- Ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
US	tert-butyl acetate	540-88-5	PEL (CA)	200	950						Cal/ OSHA PEL
US	tert-butyl acetate	540-88-5	REL	200 (10 h)	950 (10 h)						NIOSH REL
US	tert-butyl acetate	540-88-5	TLV®	50		150					ACGIH® 2022
US	tert-butyl acetate	540-88-5	PEL	200	950						29 CFR 1910.1000

Notation

Ceiling-C

STEL

TWA

ceiling value is a limit value above which exposure should not occur
 short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
 time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Liquid
Color	Colorless
Particle	Not relevant (liquid)
Particle size	Not available
Odor	Characteristic

Other safety parameters

pH (value)	Not determined
Melting point/freezing point	<-58 °C
Initial boiling point and boiling range	97.8 °C
Flash point	22 °C
Evaporation rate	Not determined
Flammability (solid, gas)	Not relevant (fluid)
Explosive limits	Not determined
Vapor pressure	42 Torr at 20 °C
Density	0.86 g/cm ³ at 25 °C
Vapor density	Not available
Relative density	Not available
Solubility(ies)	Not determined

Partition coefficient

- n-octanol/water (log KOW)	1.64 (pH value: 5, 21.7 °C) (ECHA) Not available
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Auto-ignition temperature	589 °C at 761 mmHg (ECHA) (auto-ignition temperature (liquids and gases))
Decomposition temperature	Not relevant

Viscosity

- Kinematic viscosity	<1 mm ² /s at 25 °C
- Dynamic viscosity	0.86 cP at 25 °C

Explosive properties	None
Oxidizing properties	None

There is no additional information

9.2 Other information

Surface tension	64 mN/m (20 °C) (ECHA)
Temperature class (USA, acc. to NEC 500)	T1 (maximum permissible surface temperature on the equipment: 450°C)

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". It's a reactive substance. The mixture contains reactive substance(s). Risk of ignition. Reacts with water.

If heated:

Risk of ignition.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

10.5 Incompatible materials

Oxidizers. Alkalines. Acids. Nitrates.

10.6 Hazardous decomposition products

Under hot, acidic conditions, substance decomposition products are isobutylene and acetic acid. Hazardous combustion products: see section 5.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4: May be harmful if swallowed or in contact with skin.

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Other information

Repeated exposure may cause skin dryness or cracking.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (acute)			
Endpoint	Value	Species	Exposure time
LC50	240 mg/l	Fish	96 h
EC50	410 mg/l	Aquatic invertebrates	24 h
ErC50	64 mg/l	Algae	96 h

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12.2 Persistence and degradability

Process of degradability		
Process	Degradation rate	Time
oxygen depletion	50 %	28 d

12.3 Bioaccumulative potential

Data are not available.

n-octanol/water (log KOW)	1.64 (pH value: 5, 21.7 °C) (ECHA)
---------------------------	------------------------------------

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Not listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number

DOT	UN 1123
IMDG-Code	UN 1123
ICAO-TI	UN 1123

14.2 UN proper shipping name

DOT	Butyl acetates
-----	----------------

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IMDG-Code	BUTYL ACETATES
ICAO-TI	Butyl acetates
14.3 Transport hazard class(es)	
DOT	3
IMDG-Code	3
ICAO-TI	3
14.4 Packing group	
DOT	II
IMDG-Code	II
ICAO-TI	II
14.5 Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations
14.6 Special precautions for user	
There is no additional information.	
14.7 Transport in bulk according to IMO instruments	
The cargo is not intended to be carried in bulk.	

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Particulars in the shipper's declaration	UN1123, Butyl acetates, 3, II
Reportable quantity (RQ)	5,000 lbs (2,270 kg) (Tert-butyl acetate)
Danger label(s)	3



Special provisions (SP)	IB2, T4, TP1
ERG No	129

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	-
Danger label(s)	3



Special provisions (SP)	-
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-E, S-D
Stowage category	B

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International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Danger label(s) 3



Special provisions (SP) A3

Excepted quantities (EQ) E2

Limited quantities (LQ) 1 L

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) Substance is listed

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

Not listed.

- Specific Toxic Chemical Listings (EPCRA Section 313)

Not listed.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
Tert-butyl acetate	540-88-5		1	5000 (2270)

Legend

1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

Clean Air Act

Not listed.

Right to Know Hazardous Substance List

not listed

- Toxic or Hazardous Substance List (MA-TURA)

Name of substance	CAS No	DEP CODE	PBT / HHS / LHS	PBT / HHS Threshold	De Minimis Concentration Threshold
Tert-butyl acetate	540-88-5				1.0 %

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- Hazardous Substances List (MN-ERTK)

Name of substance	CAS No	References	Remarks
Tert-butyl acetate	540-88-5	A, O	

Legend

- A American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH
- O Occupational Safety and Health Administration (OSHA), Safety and Health Standards, Code of Federal Regulations, title 29, part 1910, subpart Z, "Toxic and Hazardous Substances, 1990." General information: Minnesota Department of Labor and Industry, Occupational Safety and Health Division

- Hazardous Substance List (NJ-RTK)

Name of substance	CAS No	Remarks	Classifications
Tert-butyl acetate	540-88-5		F3

Legend

- F3 Flammable - Third Degree

- Hazardous Substance List (Chapter 323) (PA-RTK)

Name acc. to inventory	CAS No	Classification
ACETIC ACID, 1,1-DIMETHYLETHYL ESTER	540-88-5	E

Legend

- E Environmental hazard

- Hazardous Substance List (RI-RTK)

Name of substance	CAS No	References
Tert-butyl acetate	540-88-5	T

Legend

- T Toxicity (ACGIH®)

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Not listed.

VOC content

All Cerakote coatings are VOC compliant under the EPA and have low to no VOC content. To find out the VOC content of an individual coating please contact sds@nicindustries.com for more information.

Industry or sector specific available guidance(s)

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

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Category	Degree of hazard	Description
Flammability	3	Material that can be ignited under almost all ambient temperature conditions
Health	0	Material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material
Instability	0	Material that is normally stable, even under fire conditions
Special hazard		

National inventories

Country	Inventory	Status
AU	AIIC	Substance is listed
CA	DSL	Substance is listed
CN	IECSC	Substance is listed
EU	ECSI	Substance is listed
EU	REACH Reg.	Substance is listed
JP	CSCL-ENCS	Substance is listed
JP	ISHA-ENCS	Substance is listed
KR	KECI	Substance is listed
MX	INSQ	Substance is listed
NZ	NZIoC	Substance is listed
PH	PICCS	Substance is listed
TW	TCSI	Substance is listed
US	TSCA	Substance is listed

Legend

AIIC	Australian Inventory of Industrial Chemicals
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

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SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH®	American Conference of Governmental Industrial Hygienists
ACGIH® 2022	From ACGIH®, 2022 TLVs® and BEIs® Book. Copyright 2022. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DEP CODE	Department of Environmental Protection Code
DGR	Dangerous Goods Regulations (see IATA/DGR)
DOT	Department of Transportation (USA)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
ERG No	Emergency Response Guidebook - Number
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LHS	Lower hazard substance
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

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Abbr.	Descriptions of used abbreviations
NLP	No-Longer Polymer
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
ppm	Parts per million
STEL	Short-term exposure limit
TLV®	Threshold Limit Values
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H225	Highly flammable liquid and vapor.



APPLICATION GUIDE

TERT-BUTYL ACETATE CLEANING PREP

FOR POLISHED METALS PRIOR TO APPLICATION OF CERAKOTE CERAMIC CLEAR MC-160

***Compliance with all preparation steps necessary for maximum adhesion and performance of this material.**

1. Remove all coatings, oils, polishing rouge and contaminants from the substrate by liberally and repeatedly spraying the substrate with tert-butyl acetate and then wiping with a clean lint-free, microfiber rag. This process should be repeated, flooding the surface with tert-butyl acetate and then wiping with a clean lint-free, microfiber rag, until no residue is observed on rag.
2. MC-160 is ready to spray and should not be thinned. Gently shake the container and pour through a 325 mesh filter into an IWATA LPH-80 spray gun (Cerakote Part #SE-138). The use of a 0.8 mm spray tip will yield a sufficiently narrow pattern that will aid in coating hard to reach areas without excessive build up in surrounding areas. Electrostatic application may also be an option.
3. A 0.5 to 1.0 mil dry film thickness is recommended. To achieve this dry film thickness, a single wet coat is recommended. Spray from the most difficult surface area to the easiest. This will aid in reducing runs or excessive build up.
4. Allow to air dry. Parts will be tack free after approximately 45 to 60 minutes. Until this point, the coating is still wet and should not be touched. Parts will be partially cured after 24 hours and fully cured 5 days after application.
5. Finished goods may be handled, packaged and shipped after 24 hours, when the coating is partially cured, provided that breathable packing material is used.
6. Clean tools and equipment with tert-butyl acetate.
7. Clean microfiber rags by washing in warm or hot water with mild detergent. Do not use alkaline containing detergents. Do not use fabric softener, it will clog the open spaces in the microfiber that do the cleaning, rendering the towel useless. A void washing with anything made of cotton. Wash microfiber only with other microfiber. Dry on low heat or no heat and only dry with other microfiber products.

*Please contact a **Cerakote** technician with questions on proper use and/or application. Onsite or offsite training courses are available for further instruction. **Consult your SDS for proper handling, disposal, cautions while using this product.***

NIC Industries, Inc. does not warranty the use or application of the materials it manufactures or supplies. Our only obligation shall be to replace any defective materials supplied by us or refund the original purchase price of that product after we have determined the product to be defective. We assume no liability for damages of any kind and the user accepts the product "as is" and without any warranties, expressed or implied. The suitability of the product and/or intended use shall be solely the responsibility of the user.

The information contained in this bulletin we believe to be correct to the best of our knowledge and testing. The recommendations and suggestions herein are made without guarantee or representation as to results. We recommend that you make adequate tests in your laboratory or plant to determine if this product meets all your requirements.

INNOVATIONS OF NIC INDUSTRIES, INC.
CERAKOTE | CERAKOTE AUTO AND HOME | PRISMATIC POWDERS
7050 6TH Street, White City, OR 97503
866-774-7628

Cerakote H/HIR/Elite Series Catalyst: Part B

Version number: 4.0
 04/07/2021

Revision: 05/11/2023

SECTION 1: Identification

1.1 Product identifier

Trade name **Cerakote H/HIR/Elite Series Catalyst: Part B**

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

Relevant identified uses Professional use

1.3 Details of the supplier of the safety data sheet

NIC Industries, Inc
 7050 6th St.
 White City Oregon 97503
 United States

Telephone: 866-774-7628
 e-mail: sds@nicindustries.com
 Website: www.nicindustries.com

1.4 Emergency telephone number

Emergency information service 1-800-633-8253 (USA & Canada)

The information contained in this Safety Data Sheet (SDS) is, to the best of our knowledge, true and accurate and presented in good faith. NIC Industries, Inc. makes no warranties, expressed or implied, as to the accuracy and adequacy of this information. Because many factors may affect processing or application/use of this product, this data is offered solely for the user's consideration, investigation and verification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or process. Regulatory requirements are subject to change and may differ from one location to another. It is the responsibility of the buyer/user to ensure its activities comply with all local, state and federal regulations.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Hazard class and category code(s)

Classification acc. to GHS				
Section	Hazard class	Category	Hazard class and category	Hazard statement
A.10	Acute toxicity (oral)	4	Acute Tox. 4	H302
A.1D	Acute toxicity (dermal)	4	Acute Tox. 4	H312
A.2	Skin corrosion/irritation	2	Skin Irrit. 2	H315
A.3	Serious eye damage/eye irritation	2A	Eye Irrit. 2A	H319
A.4S	Skin sensitization	1B	Skin Sens. 1B	H317
A.5	Germ cell mutagenicity	2	Muta. 2	H341
A.9	Specific target organ toxicity - repeated exposure	2	STOT RE 2	H373

For full text of abbreviations: see SECTION 16.

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The most important adverse physicochemical, human health and environmental effects
Delayed or immediate effects can be expected after short or long-term exposure.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word

WARNING

- Pictograms

GHS07, GHS08



- Hazard statements

H302+H312	Harmful if swallowed or in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects.
H373	May cause damage to organs through prolonged or repeated exposure.

- Precautionary statements

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing.
P301+P312	If swallowed: Call a poison center/doctor if you feel unwell.
P302+P352	If on skin: Wash with plenty of water.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a poison center/doctor if you feel unwell.
P321	Specific treatment (see on this label).
P330	Rinse mouth.
P362	Take off contaminated clothing and wash before reuse.
P362+P364	Take off contaminated clothing and wash it before reuse.
P362+P364	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container to industrial combustion plant.

- Hazardous ingredients for labelling

Cross-linking Agent, Reactive Modifier, Metal-Modified Organic Base

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$.

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$.

Cerakote H/HIR/Elite Series Catalyst: Part B

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SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%
Reactive Modifier	CAS No Trade Secret	50 - < 75
Metal-Modified Organic Base	CAS No Trade secret	10 - < 25
Cross-linking Agent	CAS No Trade Secret	10 - < 25

** Trade Secret: In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200(i) and in accordance with the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS), the specific identity and/or exact percentage (concentration) of the composition has been withheld as a "Trade Secret"

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

None.

Cerakote H/HIR/Elite Series Catalyst: Part B

Version number: 4.0
04/07/2021

Revision: 05/11/2023

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry extinguishing powder, BC-powder, Carbon dioxide (CO₂)

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder.

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)
this information is not available

8.2 Exposure controls

Appropriate engineering controls

Exhaust ventilation. General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Wash hands thoroughly after handling. Protective clothing against liquid chemicals.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Liquid
Color	Yellowish
Particle	Not relevant (liquid)
Particle size	Not available
Odor	Ammoniacal

Other safety parameters

pH (value)	Not determined
Melting point/freezing point	Not determined
Initial boiling point and boiling range	>230 °C
Flash point	154 °C
Evaporation rate	Not determined
Flammability (solid, gas)	Not relevant (fluid)
Explosive limits	Not determined
Vapor pressure	<1 mmHg at 21 °C
Density	1.06 g/cm ³
Vapor density	Not available
Relative density	Not available
Solubility(ies)	Not determined
Partition coefficient	Not available
- n-octanol/water (log KOW)	Not available

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Auto-ignition temperature	Not determined
Decomposition temperature	Not relevant
Viscosity	Not determined
- Kinematic viscosity	Not determined
Explosive properties	None
Oxidizing properties	None
Hazard classes acc. to GHS (Physical hazards): Not relevant	
9.2 Other information	There is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". Reacts with water.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Water. Oxidizers.

10.6 Hazardous decomposition products

Carbon dioxide, carbon monoxide, and silicon oxides may be produced from all coating formulations. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Harmful if swallowed. Harmful in contact with skin.

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- Acute toxicity estimate (ATE)
 Dermal 1,310 mg/kg

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
Reactive Modifier	Trade Secret	Dermal	>1,000 mg/kg
Metal-Modified Organic Base	Trade secret	Oral	500 mg/kg
Cross-linking Agent	Trade Secret	Dermal	1,100 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

May cause an allergic skin reaction.

Germ cell mutagenicity

Suspected of causing genetic defects.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

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12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product/packaging disposal

Do not empty into drains. Avoid release to the environment. Contact a licensed professional waste disposal service to dispose of this material and its packaging.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Hazardous waste code(s)

The waste code(s) should be assigned in discussion between the user and the waste disposal company.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number	not subject to transport regulations
14.2 UN proper shipping name	not relevant
14.3 Transport hazard class(es)	none
14.4 Packing group	not assigned
14.5 Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations
14.6 Special precautions for user	There is no additional information.
14.7 Transport in bulk according to IMO instruments	The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Not subject to transport regulations.

International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

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International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA)

All ingredients are listed

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

None of the ingredients are listed.

- Specific Toxic Chemical Listings (EPCRA Section 313)

None of the ingredients are listed.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

None of the ingredients are listed.

Clean Air Act

None of the ingredients are listed.

Right to Know Hazardous Substance List

- Toxic or Hazardous Substance List (MA-TURA)

None of the ingredients are listed.

- Hazardous Substances List (MN-ERTK)

None of the ingredients are listed.

- Hazardous Substance List (NJ-RTK)

Name of substance	Remarks	Classifications
Cross-linking Agent		CO

Legend

CO Corrosive

- Hazardous Substance List (Chapter 323) (PA-RTK)

Name of substance	Classification
Cross-linking Agent	

- Hazardous Substance List (RI-RTK)

None of the ingredients are listed.

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

None of the ingredients are listed.

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VOC content

All Cerakote coatings are VOC compliant under the EPA and have low to no VOC content. To find out the VOC content of an individual coating please contact sds@nicindustries.com for more information.

Industry or sector specific available guidance(s)

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	1	Material that must be preheated before ignition can occur
Health	2	Material that, under emergency conditions, can cause temporary incapacitation or residual injury
Instability	1	Material that in themselves is normally stable but that can become unstable at elevated temperatures and pressures
Special hazard		

National inventories

Country	Inventory	Status
AU	AIIC	All ingredients are listed
CA	DSL	All ingredients are listed
CN	IECSC	All ingredients are listed
EU	ECSI	All ingredients are listed
JP	CSCL-ENCS	Not all ingredients are listed
KR	KECI	All ingredients are listed
MX	INSQ	Not all ingredients are listed
NZ	NZIoC	All ingredients are listed
PH	PICCS	All ingredients are listed
TR	CICR	Not all ingredients are listed
TW	TCSI	All ingredients are listed
US	TSCA	All ingredients are listed (ACTIVE)

Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)

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Legend

TCSI Taiwan Chemical Substance Inventory
 TSCA Toxic Substance Control Act

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
NLP	No-Longer Polymer
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).



INNOVATIONS OF **NIC INDUSTRIES**

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

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List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects.
H373	May cause damage to organs through prolonged or repeated exposure.

Cerakote Headlight Step 1: Oxidation Remover

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Revision: 01/06/2023

SECTION 1: Identification

1.1 Product identifier

Trade name

Cerakote Headlight Step 1: Oxidation Remover

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

Relevant identified uses

Consumer use (private households)
 Automotive Restoration

1.3 Details of the supplier of the safety data sheet

NIC Industries, Inc
 7050 6th St.
 White City Oregon 97503
 United States

Telephone: 866-774-7628
 e-mail: sds@nicindustries.com
 Website: www.nicindustries.com

1.4 Emergency telephone number

Emergency information service

1-800-633-8253 (USA & Canada)

The information contained in this Safety Data Sheet (SDS) is, to the best of our knowledge, true and accurate and presented in good faith. NIC Industries, Inc. makes no warranties, expressed or implied, as to the accuracy and adequacy of this information. Because many factors may affect processing or application/use of this product, this data is offered solely for the user's consideration, investigation and verification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or process. Regulatory requirements are subject to change and may differ from one location to another. It is the responsibility of the buyer/user to ensure its activities comply with all local, state and federal regulations.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Hazard class and category code(s)

Classification acc. to GHS				
Section	Hazard class	Category	Hazard class and category	Hazard statement
A.2	Skin corrosion/irritation	2	Skin Irrit. 2	H315
A.3	Serious eye damage/eye irritation	2	Eye Irrit. 2	H319
A.8	Specific target organ toxicity - single exposure	2	STOT SE 2	H371
B.6	Flammable liquid	3	Flam. Liq. 3	H226

For full text of abbreviations: see SECTION 16.

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The most important adverse physicochemical, human health and environmental effects

Immediate effects can be expected after short-term exposure. The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word

WARNING

- Pictograms

GHS02, GHS07, GHS08



- Hazard statements

H226	Flammable liquid and vapor.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H371	May cause damage to organs.

- Precautionary statements

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/eye protection/face protection.
P302+P352	If on skin: Wash with plenty of water.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P311	If exposed or concerned: Call a poison center/doctor.
P321	Specific treatment (see on this label).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to industrial combustion plant.

- Hazardous ingredients for labelling

Methanol

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SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%
Carrier Solvent	CAS No Trade Secret	≥ 90
Methanol	CAS No 67-56-1	1 - < 4
Alkyl Cleaning Agent	CAS No Trade Secret	1 - < 4

** Trade Secret: In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200(i) and in accordance with the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS), the specific identity and/or exact percentage (concentration) of the composition has been withheld as a "Trade Secret"

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Rinse skin with water/shower.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

None.

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SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, Dry extinguishing powder, ABC-powder

5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Deposited combustible dust has considerable explosion potential.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains. Take up mechanically.

Advice on how to clean up a spill

Take up mechanically. Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation
 Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres
 Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Removal of dust deposits. Keep cool. Protect from sunlight.
- Flammability hazards
 Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.
- Ventilation requirements
 Use local and general ventilation. Ground/bond container and receiving equipment.
- Packaging compatibilities
 Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of substance	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
US	Alkyl Cleaning Agent		REL							appx-D	NIOSH REL
US	Alkyl Cleaning Agent		PEL	1,766	15					partml, i, dust	29 CFR 1910.1000
US	Alkyl Cleaning Agent		PEL	529.5	5					partml, r, dust	29 CFR 1910.1000

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Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of substance	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
US	Alkyl Cleaning Agent		PEL (CA)		10					dust	Cal/ OSHA PEL
US	Alkyl Cleaning Agent		PEL (CA)		5					r	Cal/ OSHA PEL
US	Methanol	67-56-1	TLV®	200		250				H	ACGIH® 2022
US	Methanol	67-56-1	REL	200 (10 h)	260 (10 h)	250	325				NIOSH REL
US	Methanol	67-56-1	PEL	200	260						29 CFR 1910.1000
US	Methanol	67-56-1	PEL (CA)	200	260	250	325	1,000			Cal/ OSHA PEL

Notation

- appx-D see Appendix D - Substances with No Established RELs
- Ceiling-C ceiling value is a limit value above which exposure should not occur
- dust as dust
- H absorbed through the skin
- i inhalable fraction
- partml particules/ml
- r respirable fraction
- STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
- TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear protective gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

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Respiratory protection

Particulate filter device (EN 143).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Moistened towelette
Color	White
Particle size	Not available
Odor	None

Other safety parameters

pH (value)	Not applicable
Melting point/freezing point	Not determined
Initial boiling point and boiling range	64.7 °C
Flash point	51.7 °C
Evaporation rate	Not determined
Flammability (solid, gas)	This material is combustible, but will not ignite readily
Vapor pressure	169.3 hPa at 25 °C
Density	Not determined
Relative density	Not determined
Solubility(ies)	Not determined
Partition coefficient	
- n-octanol/water (log KOW)	Not determined

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Auto-ignition temperature	≥25 °C (relative self-ignition temperature for solids)
Decomposition temperature	Not relevant
Viscosity	Not relevant (solid matter)
- Kinematic viscosity	Not relevant
Explosive properties	None
Oxidizing properties	None

There is no additional information

9.2 Other information

Temperature class (USA, acc. to NEC 500)	T2 (maximum permissible surface temperature on the equipment: 300°C)
--	--

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s). Risk of ignition. Reacts with water.

If heated:

Risk of ignition.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.5 Incompatible materials

Oxidizers.

10.6 Hazardous decomposition products

Carbon dioxide, carbon monoxide, and silicon oxides may be produced from all coating formulations. Hazardous combustion products: see section 5.

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Revision: 01/06/2023

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4: May be harmful if swallowed.

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Methanol	67-56-1	Oral	100 mg/kg
Methanol	67-56-1	Dermal	300 mg/kg
Methanol	67-56-1	Inhalation: vapor	3 mg/l/4h
Alkyl Cleaning Agent	Trade Secret	Oral	1,844 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause damage to organs.

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

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SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Biodegradation

The relevant substances of the mixture are readily biodegradable.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

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SECTION 14: Transport information

14.1 UN number

DOT	UN 3175
IMDG-Code	UN 3175
ICAO-TI	UN 3175

14.2 UN proper shipping name

DOT	Solids containing flammable liquid, n.o.s.
IMDG-Code	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S.
ICAO-TI	Solids containing flammable liquid, n.o.s.
Technical name (hazardous ingredients)	Methanol, Alkyl Cleaning Agent

14.3 Transport hazard class(es)

DOT	4.1
IMDG-Code	4.1
ICAO-TI	4.1

14.4 Packing group

DOT	II
IMDG-Code	II
ICAO-TI	II

14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Particulars in the shipper's declaration	UN3175, Solids containing flammable liquid, n.o.s., (contains: Methanol, Alkyl Cleaning Agent), 4.1, II
Reportable quantity (RQ)	80,000 lbs (36,320 kg) (Methanol) (Alkyl Cleaning Agent)
Danger label(s)	4.1



Special provisions (SP)	47, IB6, IP2, T3, TP33
-------------------------	------------------------

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ERG No 133

Remarks

Special Provision 47: Mixtures of solids that are not subject to this subchapter and flammable liquids may be transported under this entry without first applying the classification criteria of Division 4.1, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Except when the liquids are fully absorbed in solid material contained in sealed bags, for single packagings, each packaging must correspond to a design type that has passed a leakproofness test at the Packing Group II level. Small inner packagings consisting of sealed packets and articles containing less than 10 mL of a Class 3 liquid in Packing Group II or III absorbed onto a solid material are not subject to this subchapter provided there is no free liquid in the packet or article.

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant -
 Danger label(s) 4.1



Special provisions (SP) 216, 274
 Excepted quantities (EQ) E2
 Limited quantities (LQ) 1 kg
 EmS F-A, S-I
 Stowage category B

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Danger label(s) 4.1



Special provisions (SP) A46
 Excepted quantities (EQ) E2
 Limited quantities (LQ) 5 kg

Remarks

Special Provision A46: Mixtures of solids which are not subject to these Instructions and flammable liquids may be transported under this entry without first applying the classification criteria of Division 4.1, providing there is no free liquid visible at the time the substance is packaged and, for single packagings, the packaging must pass a leakproofness test at the Packing Group II level. Sealed packets and articles containing less than 10 mL of a Packing Group II or III flammable liquid absorbed into a solid material are not subject to these Instructions provided there is no free liquid in the packet or articles.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA)

All ingredients are listed

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Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

None of the ingredients are listed.

- Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings			
Name of substance	CAS No	Remarks	Effective date
Methanol	67-56-1		12/31/1986

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	Remarks	Statutory code	Final RQ pounds (Kg)
Alkyl Cleaning Agent		1	1000 (454)
Methanol		3 4	5000 (2270)

Legend

- 1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act
- 3 "3" indicates that the source is section 112 of the Clean Air Act
- 4 "4" indicates that the source is section 3001 of the Resource Conservation and Recovery Act (RCRA)

Clean Air Act

None of the ingredients are listed.

Right to Know Hazardous Substance List

- Toxic or Hazardous Substance List (MA-TURA)

Name of substance	DEP CODE	PBT / HHS / LHS	PBT / HHS Threshold	De Minimis Concentration Threshold
Alkyl Cleaning Agent				1.0 %
Methanol				1.0 %

- Hazardous Substances List (MN-ERTK)

Name of substance	References	Remarks
Carrier Solvent	I	
Methanol	A, N, O	skin

Legend

- A American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH
- I American Industrial Hygiene Association (AIHA), "Workplace Environmental Exposure Level Guides" (1992), available from AIHA
- N National Institute for Occupational Safety and Health (NIOSH), "Recommendations for Occupational Safety and Health Standards," August 1988, available from NIOSH, Publications Dissemination Office, Division of Standards Development and Technology Transfer

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Legend

O Occupational Safety and Health Administration (OSHA), Safety and Health Standards, Code of Federal Regulations, title 29, part 1910, subpart Z, "Toxic and Hazardous Substances, 1990." General information: Minnesota Department of Labor and Industry, Occupational Safety and Health Division
 skin If a potential for absorption from skin contact merits special consideration, the word "skin" follows the substance name.

- Hazardous Substance List (NJ-RTK)

Name of substance	Remarks	Classifications
Carrier Solvent		
Alkyl Cleaning Agent		F4 R2
Methanol		TE F3

Legend

F3 Flammable - Third Degree
 F4 Flammable - Fourth Degree
 R2 Reactive - Second Degree
 TE Teratogenic

- Hazardous Substance List (Chapter 323) (PA-RTK)

Name of substance	Classification
Carrier Solvent	
Alkyl Cleaning Agent	E
Methanol	E

Legend

E Environmental hazard

- Hazardous Substance List (RI-RTK)

Name of substance	References
Carrier Solvent	F
Methanol	T, F

Legend

F Flammability (NFPA®)
 T Toxicity (ACGIH®)

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Proposition 65 List of chemicals			
Name acc. to inventory	CAS No	Remarks	Type of the toxicity
Methanol	67-56-1		developmental

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VOC content

All Cerakote coatings are VOC compliant under the EPA and have low to no VOC content. To find out the VOC content of an individual coating please contact sds@nicindustries.com for more information.

Industry or sector specific available guidance(s)

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	3	Material that can be ignited under almost all ambient temperature conditions
Health	2	Material that, under emergency conditions, can cause temporary incapacitation or residual injury
Instability	2	Material that readily undergoes violent chemical change at elevated temperatures and pressures
Special hazard	W	Material that can form potentially explosive mixtures with water

National inventories

Country	Inventory	Status
AU	AiIC	All ingredients are listed
CA	DSL	All ingredients are listed
CN	IECSC	All ingredients are listed
EU	ECSI	All ingredients are listed
EU	REACH Reg.	All ingredients are listed
JP	CSCL-ENCS	All ingredients are listed
KR	KECI	All ingredients are listed
MX	INSQ	All ingredients are listed
NZ	NZIoC	All ingredients are listed
PH	PICCS	All ingredients are listed
TR	CICR	All ingredients are listed
TW	TCSI	All ingredients are listed
US	TSCA	All ingredients are listed

Legend

AiIC Australian Inventory of Industrial Chemicals
 CICR Chemical Inventory and Control Regulation
 CSCL-ENCS List of Existing and New Chemical Substances (CSCL-ENCS)
 DSL Domestic Substances List (DSL)
 ECSI EC Substance Inventory (EINECS, ELINCS, NLP)
 IECSC Inventory of Existing Chemical Substances Produced or Imported in China

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Legend

INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH®	American Conference of Governmental Industrial Hygienists
ACGIH® 2022	From ACGIH®, 2022 TLVs® and BEIs® Book. Copyright 2022. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
ATE	Acute Toxicity Estimate
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DEP CODE	Department of Environmental Protection Code
DGR	Dangerous Goods Regulations (see IATA/DGR)
DOT	Department of Transportation (USA)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ERG No	Emergency Response Guidebook - Number
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization

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Abbr.	Descriptions of used abbreviations
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LHS	Lower hazard substance
NFPA®	National Fire Protection Association (United States)
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NLP	No-Longer Polymer
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
ppm	Parts per million
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
STEL	Short-term exposure limit
TLV®	Threshold Limit Values
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).





List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H226	Flammable liquid and vapor.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H371	May cause damage to organs.





Attachment B: Chemical Segregation and Storage Table

Chemical Segregation and Storage Table



Chemical Segregation

Class of Chemicals	Common Chemical Examples	Additional Concerns and Storage Recommendations	Common Incompatible Chemical Types	Possible Reaction if Mixed/Health Concerns
Corrosive Acids-Organic 	Acetic Acid Glacial Acetic Acid Butyric Acid Trifluoroacetic Acid Picric Acid Propionic Acid Formic Acid	Store in ventilated corrosives cabinet on protected shelving using secondary containment, keep away from water sources *Do not store under the sink *Do not store acids on metal shelving	Flammable Liquids Flammable Solids Bases Oxidizers Inorganic Acids Cyanides Sulfides Poisons/Toxins	Heat Gas Generation Violent Reaction * DO NOT POUR WATER INTO ACID
Corrosive Acids-Inorganic 	Nitric Acid Sulfuric Acid Perchloric Acid Phosphoric Acid Hydrochloric Acid Chromic Acid Hydrofluoric Acid	Store concentrated Nitric acid ($\geq 68\%$) and Sulfuric acid ($\geq 93\%$) in a secondary container Store in a corrosive cabinet labeled "Acid" or on shelving using a secondary containment *Do not store under the sink *Do not store acids on metal shelving *Hydrofluoric acid should be stored in an area accessible only by authorized personnel; do not store in glass; use plastic containers and secondary containment	Flammable Liquids Flammable Solids Bases Oxidizers Organic Acids Cyanides Sulphides Poisons/Toxins	Heat Gas Generation Violent Reaction *DO NOT POUR WATER INTO ACID *Perchloric acid vapor can form explosive compounds within fume hood ducts *Hydrofluoric acid can result in severe burns to skin and lungs
Corrosive Bases-Organic/Caustic 	Hydroxylamine Tetramethylethylamine Diamine Triethylamine	Store in separate cabinet, preferably with ventilation, corrosive cabinet or storage area with a spill tray, away from potential water sources (DO NOT store under the sink)	Acids Oxidizers Flammable Liquids Flammable Solids Inorganic Bases Poisons/Toxins	Heat Gas Generation Violent Reaction
Corrosive Bases-Inorganic/Caustics 	Ammonium Hydroxide Potassium Hydroxide Sodium Hydroxide Calcium Hydroxide	Store in separate cabinet, preferably with ventilation, corrosive cabinet or storage area with a spill tray, away from potential water sources (DO NOT store under the sink); Store solutions of inorganic hydroxides in labeled polyethylene containers	Acids Oxidizers Flammable Liquids Flammable Solids Organic Bases Poisons/Toxins	Heat Gas Generation Violent Reaction




Chemical Segregation

Class of Chemicals	Common Chemical Examples	Additional Concerns and Storage Recommendations	Common Incompatible Chemicals Types	Possible Reaction if Mixed/Health Concerns
Flammable Solids 	Charcoal Carbon Paraformaldehyde Phosphorus Magnesium	Keep in a dry, cool area away from oxidizers and corrosives	Acids Bases Oxidizers Poisons/Toxins	Fire Hazard Violent Reaction
Flammable Liquids 	Ethanol, Ethyl Acetate, Methanol, Acetone, Benzene, Xylene, Toluene Diethyl Ether Tetrahydrofuran Acetonitrile Glacial Acetic Acid Acetone liquids with flashpoints < 100 F	Flammable storage cabinet or refrigerator rated for flammable/hazardous storage/explosion proof *Peroxide-forming chemicals must be dated upon delivery and opening (two dates)	Oxidizers Acids Bases Reactives Poisons/Toxins	Fire Hazard Heat Violet Reaction
Poisons/Toxins 	Chloroform Cyanides Heavy metal compounds (e.g. Cadmium, Mercury, Osmium, Oxalic Acid, Phenol, Formic Acid), Formamide, Carbon Tetrachloride, 2-Mercaptoethanol Phenol, *Hydrofluoric Acid - Hydrofluoric Acid is a highly acute poison Acrylamide Ethidium Bromide Sodium Azide	Store in a dark, dry, ventilated, cool area in an unbreakable chemically resistant secondary container (polyethylene) * Store volatile toxins with evaporation rate above 1.0 - (ether =1.0) in flammable cabinet; Store non-volatile liquid poisons in a refrigerator or cabinet; amounts less than 1 liter can be stored in a cabinet above bench level, ONLY if the cabinet has sliding doors (not swinging)	Flammable liquids Acids Bases Reactives Oxidizers Corrosives Please consult Division of Environmental Protection (DEP) for assistance *Hydrofluoric Acid should be stored in an area accessible only by authorized personnel; do not store in glass; use plastic containers and secondary containment	Generation of Toxic and Flammable Gas Combustion Heat Fire Hazard Explosion Hazard Violent Reaction Chloroform explosively reacts with chemically-reactive metals (e.g., Aluminum or Magnesium powder, Sodium, and Lithium), Strong Oxidizers, Strong Caustics (e.g., Alkalis), and decomposes in sunlight
Explosives 	Picric Acid Ammonium Nitrate Nitro Urea Trinitroaniline Benzoyl Peroxide Trinitrobenzene Trinitrobenzoic Acid Trinitrotoluene Urea Nitrate Trinitrophenol Diazoisbutylnitrile	Store in a secure location away from other chemicals; store in an area away from friction or shock	Please consult the SDS and the DEP	Explosion Hazard Violent Reaction Heat Shock Friction



Chemical Segregation

Class of Chemicals	Common Chemical Examples	Additional Concerns and Storage Recommendations	Common Incompatible Chemicals Types	Possible Reaction if Mixed/Health Concerns
Oxidizers 	Peroxides, Nitrates, Perchlorates Permanganates Sodium Hypochlorite Ethyl Acetate, Iodine, Benzoyl Peroxide Potassium Dichromate Chlorates, Bromates, and Superoxides, Ammonium Persulfate, Ferric chloride	Store in secondary containment separately from combustibles and flammable materials	Combustibles Flammables Organic Materials Reducing Agents	Fire Hazard Gas Generation Toxic Gas
Peroxide Formers 	Acrylonitrile Isopropyl Alcohol Ethers (e.g. Diethyl ether, Isopropyl Ether), Acetals and Ketals, especially Cyclic Ethers and those with primary and/or secondary Alkyl groups Aldehydes (e.g. Acetaldehyde, Benzaldehyde) Vinyl and Vinylidene compounds, Dienes Tetrahydrofuran Dioxane Butylated Hydroxytoluene (BHT) Isopropyl Ether	Store in airtight bottles, away from light and heat in a dark, cool dry area; avoid using containers with loose-fitting lids and ground glass stoppers; crystallization, discoloration, and formation or deposition of layers are signs a peroxide former may have become shock sensitive; do not use or move such containers: contact DEP; all bottles of peroxide-forming chemicals must have the received date marked on the container; when the bottle is first opened, the container must be marked with the date opened	Always consult the Safety Data Sheet (SDS) and the Division of Environmental Protection (DEP)	Explosion Hazard Violent Reaction Shock Sensitive Combustion (Exothermic Reaction) If an old or expired container of a peroxide-forming chemical or reactive is found, do not move it. Contact the DEP at 301-496-4710 for assistance in disposing of the container
Water Reactive	Sodium Metals Lithium Metals Potassium Metals Sodium Borohydride Alkali Metal Hydrides	Store in a dry, cool area away from potential spray from fire sprinklers and other water sources (DO NOT store under the sink) Label this area for water-reactive storage	Aqueous solutions Oxidizers Please consult the Safety Data Sheet (SDS) and the Division of Environmental Protection (DEP)	Heat Violent Reaction

Chemical Segregation

Class of Chemicals	Common Chemical Examples	Additional Concerns and Storage Recommendations	Common Incompatible Chemicals Types	Possible Reaction if Mixed/Health Concerns
Flammable Compressed Gases 	Methane Acetylene Butane Propane Hydrogen Silane Ethane Arsine Germane	Handle flammable compressed gases in a chemical fume hood Store in well-ventilated areas; store away from oxidizers, open flames, sparks, and other sources of heat ignition; post NO SMOKING signs around storage area(s) or entrance(s) to storage room(s); flammable gases stored outdoors where ambient temperatures exceed 125 deg F (51.7 deg C) shall be protected from direct sunlight Use a spark proof wrench to attach regulators and make other connections; install a flame/flash arrestor at the regulator outlet flow valve	Oxidizers Toxic Compressed Gases	Fire Hazard Explosion Hazard
Oxidizing Compressed Gases 	Oxygen Chlorine Fluorine Nitrogen oxides Gas mixtures containing Oxygen higher than atmospheric concentrations	Store oxidizers separately from flammable gas containers or combustible materials; minimum separation requirement from these materials is 20 ft or a 5 ft noncombustible barrier with a fire resistance rating of at least 30 minutes Clean equipment used for oxygen and nitrous oxide with oxygen-compatible materials free from oils, greases, and other contaminants Fluorine shall be handled in specially passivated containers and associated equipment	Flammable Compressed Gases Toxic Compressed Gases	Fire Hazard Explosion Hazard
Toxic Compressed Gases 	Carbon Monoxide Hydrogen Chloride Hydrogen Sulfide Nitrogen Dioxide	Handle toxic compressed gases in a chemical fume hood Indoor storage or use of toxic compressed gases shall be provided with a gas cabinet, exhausted enclosure, or gas room Refer to the SDS information for additional guidance on the storage and compatibility requirements	Flammable Compressed Gases Oxidizing Compressed Gases	Release of Toxic Gas Hydrogen Sulfide is a colorless, flammable, extremely hazardous gas with a "rotten egg" smell; Prolonged exposure may cause nausea, tearing of the eyes, headaches or loss of sleep, airway problems (bronchial constriction) in some asthma patients; possible fatigue, loss of appetite, headache, irritability, poor memory, dizziness and slight conjunctivitis

Chemical Segregation

Class of Chemicals	Common Chemical Examples	Additional Concerns and Storage Recommendations	Common Incompatible Chemicals Types	Possible Reaction if Mixed/Health Concerns
Strong Reducing Agents	Acetyl Chloride Thionyl Chloride Maleic Anhydride Ferrous Sulfide	Store in cool, dry, well-ventilated location Water reactive Segregate from all other chemicals	Please consult the specific SDS and DEP	Please consult the specific SDS and DEP
Carcinogens 	Benzidine Beta-Naphthylamine Benzene Methylene Chloride Beta-Propiolactone Carbon Tetrachloride	Label all containers as "Cancer Suspect Agents" or the equivalent. Store according to the hazardous nature of the chemical, using appropriate security when necessary	Please consult the specific SDS and DEP	Please consult the specific SDS and DEP
Teratogens 	Lead Compounds Mercury Compounds Benzene Aniline	Label all containers as "Suspect Reproductive Hazard" or "Reproductive Effector" Store according to the hazardous nature of the chemical, using appropriate security when necessary	Aniline incompatible with Nitric Acid and Hydrogen Peroxide Please consult the specific SDS and DEP	Please consult the specific SDS and DEP
General Stock Chemicals	Sodium Bicarbonate Sodium Chloride Agar Salt buffer Most non-reactive salts	Store on shelves, or laboratory benches or shelving preferably behind glass doors and below eye level with like chemicals	Please consult the SDS and DEP	Please consult the specific SDS and DEP

Adapted from Prudent Practices in the Laboratory: Handling and Disposal of Chemicals, National Research Council, 1995, University of Texas/Health Science at Houston and Boston University Environmental Health & Safety.

Attachment C: Department of Environmental Quality Solvent Contaminated Wipes Update

Solvent-Contaminated Wipes Update

OAD 340-101-0004(3-5), and 40 CFR §261.4(a)(26) and 261.4(b)(18)

Purpose

This fact sheet clarifies the status of solvent-contaminated rags and wipes under Oregon's hazardous waste regulations after recent federal and state changes.

Background

On Jul. 31, 2013, the US EPA published the final rules titled "Conditional Exclusion from Hazardous Waste and Solid Waste for Solvent Contaminated Wipes." The federal rule became effective on Jan. 31, 2014. As part of this rule, EPA requires states that regulate wipes through a policy to adopt enforceable regulations.

DEQ recently adopted the EPA rule in part, allowing generators to recycle solvent-contaminated wipes and rags through laundering agreements. DEQ did not adopt the portion of EPA's rule allowing disposal of these wipes in municipal landfills or non-hazwaste incinerators.

DEQ will exempt wipes and rags from hazardous waste regulation if managed under Oregon's wipes rule and wipes are laundered or disposed as solid waste at a hazardous waste treatment, storage and disposal permitted facility.



Dirty rags destined for laundering

Changes from laundered wipe policy

Under the new federal regulations, the following are not eligible for the laundering exclusion:

- Rags and wipes that contain listed hazardous waste other than solvents (e.g., such as metals, etc.); and
- Rags and wipes exhibiting hazardous waste characteristics due to contaminants other than solvents.

Formerly DEQ exempted all laundered wipes according to a 1996 policy. To be at least as stringent as EPA, Oregon's new rule only applies to solvent-contaminated rags and wipes. If a business generates a rag or wipe that is hazardous waste for reasons other than solvent, these rags and wipes are no longer exempt if laundered. Wipes are also subject to recordkeeping requirements, labeling, and may only be kept on site for 180 days. DEQ also allows solvent wipes to be exempt if disposed at a hazardous waste permitted facility as solid waste.



Properly manage recyclable solvent-contaminated wipes

How does Oregon's rule differ from EPA?

DEQ does not allow disposal of wipes at a municipal landfill or non-hazardous waste incinerator.

The federal rule requires containers holding recyclable wipes to be labeled as "Excluded Solvent-Contaminated Wipes." Oregon requires labeling, but allows for equivalent wording on the label such as 'dirty rags destined for laundering.'

Businesses management of wipes under Oregon's rule

Businesses must place solvent-contaminated wipes in non-leaking, closed containers with no free liquids, and label containers "Excluded Solvent- Contaminated Wipes" or with equivalent wording (see example above).

Before transporting, businesses must ensure solvent-contaminated wipes and their containers have no free liquids, as determined by the Paint Filter Liquids Test (EPA Methods Test 9095B).

Businesses must manage free liquids removed from the wipes or from the containers holding wipes as hazardous waste prior to the wipes sent for laundering or disposal.



State of Oregon
Department of
Environmental
Quality

Hazardous Waste
700 NE Multnomah St.
Suite 600
Portland, OR 97232
Phone: 503-229-5696
800-452-4011
Fax: 503-229-5850
www.oregon.gov/DEQ

Last Updated: 080817
By: Laurey Cook

A business can accumulate solvent-contaminated wipes for up to 180 days before sending for cleaning or disposal at a hazardous waste permitted facility.

Businesses must keep records documenting:

- The name and address of the laundry or dry cleaner;
- How the 180-day accumulation time limit is being met; and
- The process it uses to meet the “no free liquids” condition.

The exclusion consists of: Wipes that exhibit a hazardous characteristic resulting from a solvent listed in Part 261; wipes that exhibit only the characteristic of ignitability when containing one or more non-listed solvents; and wipes containing one or more F001-F005 listed solvents listed in 40 CFR §261.31 or the corresponding P- or U-listed solvents found in §261.33, including:

- Acetone
 - Benzene
 - n-Butanol
 - Chlorobenzene
 - Creosols
 - Cyclohexanone
 - 1,2-Dichlorobenzene
 - Ethyl acetate
 - Ethyl benzene
 - 2-Ethoxyethanol
 - Isobutyl alcohol
 - Methanol
 - Methyl ethyl ketone
 - Methyl isobutyl ketone
 - Methylene chloride
 - Tetrachloroethylene
 - Toluene
 - 1,1,2-Trichloroethane
 - Trichloroethylene*
 - Xylenes
- * Trichloroethylene for reuse only

Reusable solvent-contaminated wipes must go to a laundry or dry cleaner where discharge, if any, is regulated under sections 301 and 402 or section 307 of the Clean Water Act.

If disposing, not laundering, solvent-contaminated wipes or rags are exempt as long as the business follows the management requirements and send for disposal to a hazardous waste permitted facility.

Laundries management of wipes under Oregon’s rule

Laundries must store solvent-contaminated wipes in non-leaking, closed containers that are labeled “Excluded Solvent-Contaminated Wipes” or equivalent wording. Containers must be able to contain free liquids should they occur.

In transportation, occasionally free liquids can settle out. Free liquids removed from the wipes or from the container holding the wipes must be managed according to applicable hazardous

waste regulations in 40 CFR parts 260 through 273.

Laundries must not accept wipes and rags from large or small quantity generators that are toxic, corrosive, or reactive hazardous waste due to the presence of contamination that is not from a solvent listed in the federal rule.

Laundries cannot accept wipes and rags from large or small quantity generators contaminated with listed hazardous waste, unless the wipes and rags are hazardous waste for a solvent listed in the wipes and rag rule

DEQ regional offices and assistance

For more assistance, see the DEQ hazardous waste program specialist in your area.

Northwest Region office: 700 NE Multnomah St., Suite 600, Portland, OR 97232, 503-229-5696

Bend office: 475 Bellevue, Suite 110, Bend, OR 97701, 541-388-6146

Pendleton office: 800 SE Emigrant, Suite 330, Pendleton OR 97801, 541-276-4063

Salem office: 4026 Fairview Industrial Dr., Salem, OR 97302, 503-378-8240, ext. 253

Eugene office: 165 E. 7th Ave., Suite 100, Eugene OR 97401, 541-686-7838

Where to find more information

DEQ hazardous waste regulations are located on DEQ’s website or search Oregon Administrative Rule 100 through 109.

Federal hazardous waste regulations are in Title 40, Part 260-265 of the Code of Federal Regulations.

Alternative formats

Documents can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request a document in another format or language, call DEQ in Portland at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696; or email deqinfo@deq.state.or.us.

Attachment D: Jefferson County Staff Email

11960 SW Meadows

Emily Lee <emily.lee@jeffco.net>
To: Amber Hudspeth <amber@hlworegon.com>

Wed, Jan 10, 2024 at 11:07 AM

Hi Amber,

It was confirmed the temp trailer was approved with a temporary use permit and the shop was finalized. The temp trailer is ok to connect to septic through the authorization. The shop should not be connected to septic.

Thanks,

Emily



Emily Lee

Onsite Permit Tech

p: 541.475.4453

f: 541.325.5004

a: 85 S.E. D Street, Madras, OR 97741

w: www.co.jefferson.or.us e: Emily.lee@jeffco.net

From: Amber Hudspeth <amber@hlworegon.com>
Sent: Wednesday, January 10, 2024 10:21 AM
To: Emily Lee <emily.lee@jeffco.net>
Subject: Re: 11960 SW Meadows

Hi Emily

I am not aware that the structure is in or that the system is failing.

Another question I dont see is that the temp trailer or the shop appear to be approved to- or are connected to the septic? Is that correct?

cheers

Amber L. Hudspeth

Principal Scientist

541.420.2710



[Quoted text hidden]

Attachment E: Oregon Water Resources Department Drinking Water Well Logs

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

(START CARD) # 103882

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number 886
Name William B Wheeler
Address 6471 SW Dee Lane
City Calver State OR Zip 97734

(2) TYPE OF WORK
 New Well Deepening Alteration (repair/recondition) Abandonment

(3) DRILL METHOD:
 Rotary Air Rotary Mud Cable Auger
 Other

(4) PROPOSED USE:
 Domestic Community Industrial Irrigation
 Thermal Injection Livestock Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes No Depth of Completed Well 760 ft.
Explosives used Yes No Type _____ Amount _____

HOLE				SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds	
8"							
12"	0	18 1/2	Bentonite	0	18 1/2	10	
8"	18 1/2	760					

How was seal placed: Method A B C D E
 Other poured in DRY
Backfill placed from _____ ft. to _____ ft. Material _____
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing: 8"	4 1/2	18 1/2	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour

Yield gal/min	Drawdown	Drill stem at	Time
20	unknown	760	1 hr.

Pump Bailor Air Flowing Artesian

Temperature of water 68° Depth Artesian Flow Found _____
Was a water analysis done? Yes By whom _____
Did any strata contain water not suitable for intended use? Too little
 Salty Muddy Odor Colored Other _____
Depth of strata: _____

(9) LOCATION OF WELL by legal description:
County Jefferson Latitude _____ Longitude _____
Township 12 N or S Range 11 E or W. WM.
Section 12 SE 1/4 NW 1/4
Tax Lot 211 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) 6471 SW Dee Lane

(10) STATIC WATER LEVEL:
700 ft. below land surface. Date 5/28/98
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found 740

From	To	Estimated Flow Rate	SWL
740	760	20	700

(12) WELL LOG:

Ground Elevation _____

Material	From	To	SWL
Top Soil	0	2	
Hard Black Basalt	2	30	
Cong	30	480	
Hard Black Basalt	480	700	700
Cong	700	760	

Date started 5/28/98 Completed 6/2/98

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
Signed David A Schlichting WWC Number 1583 Date 6/2/98

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
Signed David M. [unclear] WWC Number 589 Date 6-2-98

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

STATE OF OREGON
WATER SUPPLY WELL REPORT

(As required by ORS 537.765)

Instructions for completing this report are on the last page of this form

JEFF
50613

JAN 13 2000

WELL ID # _____
(START CARD) # 126666

(1) OWNER:

Name **Cam & Julie Montgomery**
Address **12540 SW Meadows Lane**
City **Culver** State **OR** Zip **97734**

Well Number: **1**

WATER RESOURCES DEPARTMENT
SALEM, OREGON

(9) LOCATION OF WELL by legal description:

Latitude _____ Longitude _____
Section **12B** N or S. Range **11E** E or W. of WM.
Tax Lot **105** Lot **7** Block **4** Subdivision **3Rivers**
Street Address of Well (or nearest address)
12540 SW Meadows Lane, 3-Rivers

(2) TYPE OF WORK:

New Well Deepening Alteration (repair/recondition) Abandonment

(3) DRILL METHOD:

Rotary Air Rotary Mud Cable Auger
 Other _____

(4) PROPOSED USE:

Domestic Community Industrial Irrigation
 Thermal Injection Livestock Other _____

(5) BORE HOLE CONSTRUCTION:

Special Construction approval Yes No Depth of Completed Well **708** ft.
Explosives used Yes No Type _____ Amount _____

HOLE				SEAL			
Diameter	From	To	Material	From	To	Amount	
12"	0	19	Bentonite	0	19	16 Sacks	
8"	19	772					

How was seal placed: Method A B C D E

Other **Poured Dry**

Backfill placed from _____ ft. to _____ ft. Material _____

Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

Diameter	From	To	Gauge	Material			
				Steel	Plastic	Welded	Threaded
Casing: 8"	+1	19	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner: 6"	+1	628	.188	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5 9/16"	548	708	.188	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

Perforations Method _____
 Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
628	708	3/16"	640	5"	pipe	<input type="checkbox"/>	<input checked="" type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour

Pump Bailor Air Flowing Artesian

Yield gal/min **8.5** Drawdown **8** Drill stem at _____ Time **6 hr.**

Temperature of Water **57** Depth Artesian Flow found _____

Was a water analysis done? Yes By whom _____

Did any strata contain water not suitable for intended use? Too little

Salty Muddy Odor Colored Other _____

Depth of strata: _____

(10) STATIC WATER LEVEL:

657 ft. below land surface. Date **11/18/99**
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found **668**

From	To	Estimated Flow Rate	SWL
668	772	20+	657

(12) WELL LOG:

Ground elevation _____

Material	From	To	SWL
Red Clayee Top Soil & Surface Rock	0	3	
Brown Conglomerate	3	13	
Gray Basalt	13	21	
Brown Sandstone Conglomerate	21	80	
Gray Sandstone Conglomerate	80	140	
Gray & Brown Broken Lava	140	180	
See next line	180	275	
Brown Sand & Gravel (Partial Cemented)			
See next line	275	390	
Black Sandstone Conglomerate (Loose)			
Red & Brown Ash Tuff	390	415	
Brown Ash Tuff	415	480	
Gray & Brown Lava (Hard & Broken)	480	515	
Red Ash Tuff	515	525	
Red & Gray Lava - Hard	525	604	
Red & Brown Ash Tuff	604	668	
Brown Silty Sandstone WB	668	708	657
Hole Caved from	708	772	
See next line	708	772	657
Black Silty Sand & Small Gravels Caving WB			

Date started **10/6/99** Completed **11/18/99**

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to my best knowledge and belief.

WWC Number _____
Signed _____ Date _____

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

WWC Number **1385**
Signed **Robert Bewcher** Date **1/8/2000**
Western Water Development Corporation

STATE OF OREGON
 WATER SUPPLY WELL REPORT
 (as required by ORS 537.765)

RECEIVED
 JUN 17 2005
 WATER RESOURCES DEPT
 SALEM, OREGON

30920
 Jeff
 50925
 WELL I.D. # L 76530
 START CARD # 173097

Instructions for completing this report are in the back of this report.

(1) LAND OWNER Well Number 1238
 Name Billy Ray & Dyann Ewers
 Address 12275 SW Big Canyon Lane
 City Culver State Oregon Zip 97734

(2) TYPE OF WORK New Well
 Deepening Alteration (repair/recondition) Abandonment Conversion

(3) DRILL METHOD
 Rotary Air Rotary Mud Cable Auger Cable Mud
 Other

(4) PROPOSED USE
 Domestic Community Industrial Irrigation
 Thermal Injection Livestock Other

(5) BORE HOLE CONSTRUCTION Special Construction: Yes No
 Depth of Completed Well 820 ft.
 Explosives used: Yes No Type _____ Amount _____

BORE HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or Pounds
12"	0	18 1/2	Bentonite	0	18 1/2	11 sacks
8"	18 1/2	820				

How was seal placed: Method A B C D E
 Other Poured in dry
 Backfill placed from _____ ft. to _____ ft. Material _____
 Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing: 8"	+1 1/2	18 1/2	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Drive Shoe used Inside Outside None
 Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS

From	To	Slot Size	Number	Diameter	Tele/pipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailer Air Flowing Artesian
 Yield gal/min 20 Drawdown unknown Drill stem at 820 Time 1 hr

Temperature of water 65 degrees Depth Artesian Flow Found _____
 Was a water analysis done? Yes By whom _____
 Did any strata contain water not suitable for intended use?
 Salty Muddy Odor Colored Other _____
 Depth of strata: _____

(9) LOCATION OF WELL (legal description)
 County Jefferson
 Tax Lot 313 Lot _____
 Township 12 S N or S Range 11 E E or W WM
 Section 11 A NW 1/4 NE 1/4
 Lat _____ ° _____ ' _____ " or _____ (degrees or decimal)
 Long _____ ° _____ ' _____ " or _____ (degrees or decimal)
 Street Address of Well (or nearest address) 12275 SW Big Canyon Lane

(10) STATIC WATER LEVEL
740 ft. below land surface. Date 5/24/05
 _____ ft. below land surface. Date _____
 Artesian pressure _____ lb. per square inch Date _____

(11) WATER BEARING ZONES
 Depth at which water was first found _____

From	To	Estimated Flow Rate	SWL
790	820	20	740

(12) WELL LOG Ground Elevation _____

Material	From	To	SWL
Top Soil	0	3	
Hard grey basalt	3	25	
Hard red sandstone	25	28	
Hard brown sandstone	28	260	
Cong	260	480	
Hard grey basalt	480	540	
Cong	540	651	
Hard brown sandstone	651	730	
Cong	730	820	740

Date Started 5/20/05 Completed 5/24/05

(unbonded) Water Well Constructor Certification
 I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

WWC Number 1583 Date 5/24/05
 Signed David A. Schlichting

(bonded) Water Well Constructor Certification
 I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 584 Date 5/24/05
 Signed Samuel M. [Signature]

ORIGINAL - WATER RESOURCES DEPARTMENT FIRST COPY - CONSTRUCTOR SECOND COPY - CUSTOMER 06/16/2004

RECEIVED
 AUG 10 2005
 WATER RESOURCES DEPT
 SALEM, OREGON

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT
SALEM, OREGON 97310
within 30 days from the date of well completion.

WATER WELL REPORT

RECEIVED

STATE OF OREGON
(Please type or print)

JEFF 25

State Well No. 113/115-2

State Permit No. _____

MAR 24 1980
(Do not write above this line)

WATER RESOURCES DEPT

(1) OWNER: SALEM, OREGON

Name James King
Address P.O. Box 272
Culver, Oregon 97734

(2) TYPE OF WORK (check):

New Well Deepening Reconditioning Abandon
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL: (4) PROPOSED USE (check):

Rotary Driven Domestic Industrial Municipal
 Jetted Irrigation Test Well Other
 Bored

(5) CASING INSTALLED:

8" Diam. from +1 1/2 ft. to 18 1/2 ft. Gage .250
" Diam. from _____ ft. to _____ ft. Gage _____
" Diam. from _____ ft. to _____ ft. Gage _____

(6) PERFORATIONS:

Perforated? Yes No.
Type of perforator used _____
Size of perforations in. by in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

(7) SCREENS:

Well screen installed? Yes No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level
a pump test made? Yes No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " " "
" " " " "
Pump test 5 gal./min. with 0 ft. drawdown after 1 hrs.
Artesian flow g.p.m. _____
Temperature of water 50 Depth artesian flow encountered _____ ft.

(9) CONSTRUCTION:

Well seal—Material used Cement
Well sealed from land surface to 18 1/2 ft.
Diameter of well bore to bottom of seal 12 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal 10 sacks
How was cement grout placed? Pressure grouted
Was a drive shoe used? Yes No Plugs _____ Size: location _____ ft.
Did any strata contain unusable water? Yes No
Type of water? _____ depth of strata _____
Method of sealing strata off _____
Was well gravel packed? Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

(10) LOCATION OF WELL:

County Jefferson Driller's well number _____
1/4 1/4 Section 2 T. 11S R. 11E W.M.
Bearing and distance from section or subdivision corner
Lot 2, Blk. 2, 1st Addition- 3 Rivers Subd.

(11) WATER LEVEL: Completed well.

Depth at which water was first found 810 ft.
Static level 750 ft. below land surface. Date 3-11-80
Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG:

Diameter of well below casing 8"
Depth drilled 860 ft. Depth of completed well 850 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Top-soil	0	2	
Lava	2	33	
Brown Sandstone Conglomerate	33	168	
Grey Sandstone Conglomerate	168	240	
Lava	240	340	
Tan Sandstone	340	365	
Lava	365	367	
Grey Sandstone Conglomerate	367	384	
Lava	384	385	
Grey Sandstone Conglomerate	385	410	
Brown Sandstone	410	650	
Grey Sandstone	650	686	
Lava	686	695	
Brown Sandstone Conglomerate	695	696	
Lava	696	745	
Brown Sandstone	745	810	
Water-B. Brown Sandstone	810	850	
Water-B. Brown Sandstone	850	860	

Work started 3-8 19 80 Completed 3-11 19 80
Date well drilling machine moved off of well 3-11 19 80

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] William D. Aden Date 3-12, 19 80
(Drilling Machine Operator)
Drilling Machine Operator's License No. 803

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Orvail Buckner Well Drilling, Inc.
(Person, firm or corporation) (Type or print)
Address 1686 N.E. Negus Way, Redmond, Ore. 97756
[Signed] Orvail Buckner
(Water Well Contractor)
Contractor's License No. 608 Date 3-12, 19 80