Nuchar® SN

Powdered Activated Carbon

Nuchar SN
CAS Registry No.: 7440-44-0
Components listed in TSCA Inventory

Revised: 10/01/2015

Description

Nuchar SN is a chemically activated wood based powdered activated carbon with high adsorptive capacity for high molecular weight organics. Its high surface area and large volume of meso pores allow it to rapidly remove color, taste, and odor compounds from solution. Thus, Nuchar SN is designed for those applications requiring a neutral pH and a minimum amount of carbon to remove a maximum amount of impurities. Specific cost effective uses are in purification of food products such as liquid sugars, hydrolyzed vegetable protein, non essential proteins, monosodium glutamate, juices, wine and in pharmaceutical and fine chemical purification. In addition SN's high purity and excellent filterability make it especially suited for these uses. Nuchar SN meets the food-grade quality of activated carbons as defined in the current edition of the Food Chemicals Codex. It is Certified to NSF/ANSI Standard 61 and is Kosher.

Typical Application

Batch treatment with Nuchar powdered carbon is a cost effective way to achieve purity and color targets using minimal capital equipment where dosage levels may vary. The capital expense of fixed bed granular carbon vessels and piping systems can be avoided with batch mixing and filter press/leaf filters to remove the carbon.

Samples

Samples are available upon request.

Caution

Never enter tanks or other confined areas containing wet, activated carbon. Wet, activated carbon will adsorb oxygen and asphyxiation may result.

Safety: Always refer to the Safety Data Sheet for detailed information on shipping, handling, storage, and use.

Important: The information provided herein is believed to be accurate and reliable, but is presented without guarantee on the part of Ingevity. Further, nothing contained herein shall be taken as an inducement to violate any patent rights.

Specifications*	
Iodine number (mg/g)	900 min
Molasses Decolorizing Index	14 min
Filtering time (sec)	50 – 100
Moisture (% as packed)	10 max
pH	6 – 8

Typical Properties**	
Apparent density (lbs/ft^3)	20 – 23
Apparent density (kg/m^3)	320 – 370
Ash (%)	5 – 7
Surface area (m^2/g)	1400 – 1800
Pore volume to 1000 Å (cc/g)	1.1 – 1.3
Water solubles (%)	1 – 3
Particle size (d50, µ)	30 – 40

Packaging	
Bulk trucks	30,000 lbs (13,608 kg)
Bulk rail cars	80,000 – 100,000 lbs (36,288 – 45,360 kg)
Multiwall bags	45 lbs (20.4 kg)
Bulk bags	750 lbs (340 kg)

*Specifications and typical property data as produced using Ingevity procedures.
**Typical properties are for general information and are not to be construed as purchase specifications.

Ingevity
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North Charleston, SC 29406
800 458 4034
carbon@ingevity.com
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ingevity

SAFETY DATA SHEET
NUCHAR® SN

Section 1. Identification

GHS product identifier : NUCHAR® SN

Chemical name : Activated carbon

Other means of identification : NUCHAR® SN; NUCHAR® SN-20; NUCHAR® SN 100X250

Product type : Solid.

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

Material uses : Liquid purification

Supplier's details : WestRock MWV, LLC
Ingevity Division
5255 Virginia Avenue
North Charleston
South Carolina USA
29406-3615

www.ingevity.com
email: sds@ingevity.com

Telephone no.: +1 843 740 2236, +1 800 458 4034
Hours of operation: 0800 - 1700 EST

Emergency telephone number (with hours of operation) : +1 703 527 3887 (USA)
4001-204937 (in China)
CHEMTREC International

Section 2. Hazards identification

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Other hazards which do not result in classification : Fine dust clouds may form explosive mixtures with air. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : Activated carbon

Other means of identification : NUCHAR® SN; NUCHAR® SN-20; NUCHAR® SN 100X250

CAS number/other identifiers

CAS number : 7440-44-0

EC number : 231-153-3

Ingredient name	%	CAS number
Activated carbon	100	7440-44-0

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

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

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Inhalation : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
irritation
redness

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

Skin contact : No specific data.

Section 4. First-aid measures

Ingestion : No specific data.

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

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical powder.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Fine dust clouds may form explosive mixtures with air.

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

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Put on appropriate personal protective equipment.

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

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

Methods and material for containment and cleaning up

Section 6. Accidental release measures

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Use spark-proof tools and explosion-proof equipment. Dispose of according to all federal, state and local applicable regulations.

Large spill : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Avoid creating dusty conditions and prevent wind dispersal. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

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

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

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Activated carbon	**ACGIH TLV (United States).** TWA: 10 mg/m³ 8 hours. Form: Particulates not otherwise defined.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

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

Section 8. Exposure controls/personal protection

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

Individual protection measures

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

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles. Recommended: safety glasses with side-shields
Possible: splash goggles , face shield

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. > 8 hours (breakthrough time): disposable vinyl

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

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: If dust is generated and ventilation is inadequate, use respirator that will protect against dust/mist.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid. [Powder.]

Colour : Black. [Dark]

Odour : Odourless.

Odour threshold : Not available.

pH : 6 to 8 [Conc. (% w/w): 10%]

Melting point : Not applicable.

Boiling point : Not applicable.

Flash point : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Non-flammable.

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits : Not available.

Vapour pressure : Not available.

Vapour density : Not available.

Relative density : 0.32 to 0.37 [Water = 1]

Solubility : Insoluble in the following materials: cold water and hot water.

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

Auto-ignition temperature : 420 to 470°C (788 to 878°F)

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Not applicable.

Other : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Activated carbon	LC50 Inhalation Dusts and mists LD50 Oral LD50 Oral	Rat Rat Rat	8500 mg/m³ >5000 mg/kg >2000 mg/kg	1 hours - -

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Activated carbon	Skin - Oedema Skin - Erythema/Eschar Eyes - Cornea opacity Eyes - Oedema of the conjunctivae Eyes - Iris lesion	Rabbit Rabbit Rabbit Rabbit Rabbit	0 0 0 0 0	- - - - -	- - - - -

Conclusion/Summary

Skin : Non-irritating to the skin.

Eyes : Non-irritating to the eyes.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
Activated carbon	skin	Mouse	Not sensitizing

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Activated carbon	OECD 471 Bacterial Reverse Mutation Test OECD 476 In vitro Mammalian Cell Gene Mutation Test OECD 473 In vitro Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Bacteria Experiment: In vitro Subject: Mammalian-Animal Experiment: In vitro Subject: Mammalian-Human	Negative Negative Negative

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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

Section 11. Toxicological information

Potential acute health effects

Eye contact : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Inhalation : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
irritation
redness

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

Skin contact : No specific data.

Ingestion : No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence/degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

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

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

Section 13. Disposal considerations

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

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

Section 14. Transport information

	UN	IMDG	IATA	DOT Classification
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	**Remarks** NUCHAR® Activated Carbon is not considered spontaneously combustible under the "Self-Heating Test for Carbon" protocol listed in the United Nations Manual of Tests and Criteria [33.3.1]. As such, Class 4.2 provisions for U.S. DOT, IATA, ICAO, ADR and IMDG shipments do not apply.	-	-	**Remarks** NUCHAR® Activated Carbon is not considered spontaneously combustible under the "Self-Heating Test for Carbon" protocol listed in the United Nations Manual of Tests and Criteria [33.3.1]. As such, Class 4.2 provisions for U.S. DOT, IATA, ICAO, ADR and IMDG shipments do not apply.

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

Section 15. Regulatory information

China

Safety, health and environmental regulations specific for the product : No known specific national and/or regional regulations applicable to this product (including its ingredients).

China inventory (IECSC) : This material is listed or exempted.

List of Goods banned for Importing

None of the components are listed.

List of Goods banned for Exporting

None of the components are listed.

List of Toxic Chemicals Severely Restricted for Importing & Exporting by China

Section 15. Regulatory information

None of the components are listed.

Japan

Fire Service Law

Dangerous substance classes : Not applicable.

Designated quantity : Not available.

Danger class : Not available.

Designated combustibles : Not available.

Designated quantity : Not available.

Substance to report : Not listed

Fire Service Law - Obstructive materials : Not listed

Maritime Safety Law

Notification Regulating Transportation of Dangerous Materials by Sea

None of the components are listed.

Container class

None of the components are listed.

ISHL

Use of specified chemical substances

None of the components are listed.

Lead regulation : Not listed

Label requirements

None of the components are listed.

Chemicals requiring notification

None of the components are listed.

Carcinogen

None of the components are listed.

Mutagen

None of the components are listed.

Corrosive liquid : Not listed

Occupational Safety and Health Law : Not available.

ISHL Prevention of Tetraalkyl Lead Poisoning : Not listed

ISHL Harmful Substances Subject to Obtaining Permission for Manufacturing : Not listed

ISHL Harmful Substances, Prohibited for Manufacturing : Not listed

ISHL Dangerous Substances : Not listed

Chemical Substances Control Law (CSCL)

Section 15. Regulatory information

None of the components are listed.

Explosives Control Law

None of the components are listed.

Poisonous and Deleterious Substances

Deleterious

None of the components are listed.

Poisonous

None of the components are listed.

Specified poisonous

None of the components are listed.

JSOH Carcinogen : Not listed

High Pressure Gas Control Law : Not applicable.

Organic solvents poisoning prevention : Not available.

Law Concerning Prevention of Pollution of the Ocean and Maritime Disaster : Not available.

Pollutant Release and Transfer Registers (PRTR)

None of the components are listed.

Road law : Not applicable.

List of Specially Controlled Industrial Waste : Not listed

Japan inventory : This material is listed or exempted.

Safety, health and environmental regulations specific for the product : No known specific national and/or regional regulations applicable to this product (including its ingredients).

South Korea

A. Regulation according to ISHA

ISHA Article 37 : This material is not listed.

ISHA Article 38 : This material is not listed.

Article 2 of Youth Protection Act on Substances Hazardous to Youth : Not applicable.

Exposure Limits of Chemical Substances and Physical Factors

The following components have an OEL:
Activated carbon

Exposure Standards established for Harmful Factors : This material is not listed.

Harmful Factors Subject to Work Environment Measurement : This material is not listed.

Section 15. Regulatory information

Harmful Factors Subject to Special Health Check-up : This material is not listed.

Hazardous Substances Subject to Control : This material is not listed.

B. Regulation according to TCCA

TCCA Toxic chemicals : Not applicable

TCCA Observational chemicals : This material is not listed.

TCCA Article 32 (Banned) : This material is not listed.

TCCA Article 32 (Restricted) : This material is not listed.

TCCA Article 17 (TRI) : This material is not listed.

Korea inventory : This material is listed or exempted.

Accident Precaution chemicals : This material is not listed.

C. Dangerous Materials Safety Management Act : Not available.

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

E. Regulation according to other foreign laws

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

Japan : This material is listed or exempted.

New Zealand : This material is listed or exempted.

Philippines : This material is listed or exempted.

Republic of Korea : This material is listed or exempted.

Taiwan : This material is listed or exempted.

United States : This material is listed or exempted.

Section 16. Other information

History

Date of issue/Date of revision : 2015-08-31

Date of previous issue : 2015-08-24 .

Version : 2.01

Key to abbreviations : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Ingevity Corporation
5255 Virginia Avenue
N. Charleston, SC 29406
Ingevity.com

Dear Valued Customer,

Several weeks ago, we announced our new name -- Ingevity. Ingevity is a unique expression of why we exist -- to turn your complex challenges into powerful possibilities. The name speaks to our longstanding commitment to serving you, our customers, through innovative products, processes and services.

September 1, 2015 will mark an important date toward our goal of becoming an independent, publicly-traded company. This will be the date we start transacting business as Ingevity Corporation.

How does this change affect you? Please begin to transition from MeadWestvaco Corporation (MWV) to Ingevity Corporation in your systems and in your communications with us, effective September 1, 2015. All other legal entities, including MeadWestvaco Europe s.p.r.l., MWV Trading (Shanghai) Co., etc., will remain the same for now. We expect these legal entities to change at a later date.

Our corporate office address is:

Ingevity Corporation
5255 Virginia Avenue
N. Charleston, SC 29406

There is no change to the remittance accounts or address at this time.

Included is a copy of frequently asked questions. If you have additional questions, please don't hesitate to contact your representative, or send us an e-mail at chemicals@mwv.com.

We look forward to our continued partnership.

Regards,

Ed Rose
President
Ingevity Corporation
Formerly MWV Specialty Chemicals

Ingevity Corporation
5255 Virginia Avenue
N. Charleston, SC 29406
Ingevity.com

Frequently Asked Questions

Q. Will my contacts change?
A. No all sales, purchasing and customer service contacts will remain the same.

Q. Is the name change/doing business as, only out of North America, or will we expect all of our affiliates to be ready, such as China and Japan to be billing as Ingevity
A. The name change is for the MeadWestvaco Corporation – for domestic U.S. sales and export sales from the U.S. Customers purchasing from China, Japan entities and MWV Europe s.p.r.l. are not changing at this time. Further communications on transitions for those entities will be delivered as the timing is known. MWV Industria Quimica, Ltda will be changing to Ingevity Quimica, Ltda on September 1 with no other changes to address. A separate letter is being prepared for these customers.

Q. Will my paperwork change on September 1?
A. Effective 9/1/15, the new company name and logo will change on transactional documentation. Also on 9/1/15, the product labels and safety data sheets (SDS) will begin to transition from MeadWestvaco to Ingevity Corporation. The transition will take approximately 120 days. Please note that during this time, labels and SDS for the same product may not carry the same company identification; however, product information will not be different.

Q. Will the exporter, shipper, seller and mailing address change on commercial invoices?
A. Yes. It will be changed to:

Ingevity Corporation
5255 Virginia Avenue
N. Charleston, SC 29406

Q. Do we have to re-label our existing inventory?
A. No. Once we have new labels we will use them. We will make every effort to have a complete shipment without mixing labels (MWV and Ingevity). The product name and information will be the same.

Q. Does the label have to match the Safety Data Sheet?
A. Ideally, yes; however, as we transition, there will be instances when they don't match. In cases like these, we will have a letter included with the shipment explaining the transition period to Ingevity.

Q. Will VAT numbers change?
A. New VAT numbers (for EMEA) are being established for Ingevity Corporation and will be communicated to the appropriate customers in August for use beginning September 1. Your Customer Service Team will be prepared to help this transition occur as smoothly as possible.

Ingevity Corporation
5255 Virginia Avenue
N. Charleston, SC 29406
Ingevity.com

Q. Are there changes to banking information?
A. Remittance and bill to accounts numbers will not change immediately. Please continue to send payments and invoices to the current locations. New remittance and bill to information will be provided in a separate communication, along with the transition timing once developed.

Q. What about payments/bills/letters of credit in process? Are we using the same bank accounts that will accept payment under either name?
A. Remit to and bill to will remain unchanged at this time and will accept payment under either name. We are working with credit and the banks on a procedure for Letters of Credit in process and how to handle these without interruption. Training will be provided to the customer service teams for this process.

Q. Will new sales tax exemption forms be needed?
A. Yes, if you qualify for sales tax exemption, you will need to issue a new certificate. There will be further communications around this collection and timing.

Q. How do we obtain a W9 for a legal entity?
A. The new W9 for Ingevity Corporation is now available; you can request a copy from your customer service representative.

Q. When do we distribute the W9 form?
A. We have the Ingevity W9 now. However, we will use the MWV W9 until Sept 1, after which time you can use the Ingevity W9. We will let you know how you can access the document closer to Sept 1.

Erin J. Harrison
Environmental Manager

958 East Riverside Street
Covington, VA 24426
T 540 969 3659
C 540 492 1666
erin.harrison@mwv.com
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November 12, 2015

To Whom It May Concern:

RE:NUCHAR® HD, RGC, SA, SA-20, SA-1500, SN, WV-B 30, WV-B 1500, and WV-B NEUTRAL Activated Carbon

Ingevity hereby certifies that the above named products conform to the following conditions:

1) These products are not of bovine, ovine, porcine, caprine, or any animal origin. They do not involve materials of such origin or any tissue with BSE/TSE infected agents, and they are not manufactured with any raw material containing bovine or animal related products. In addition, there is no potential for cross-contamination with animal materials.

2) These products meet the food-grade quality criteria for activated carbon as defined in the current edition of the Food Chemicals Codex (FCC) and are considered GRAS, generally recognized as safe to be used in processes where they are removed from the final product per USA regulation 21 CFR 170.30(c)(1).

3) These products do not contain materials of and are not made from any genetically modified organisms (GMO).

4) These products do not contain any allergens as outlined in the Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA). Also, the raw materials do not contain any of the following allergenic substances:

Milk and milk products	Tree nuts
Eggs and egg products	Barley
Fish and fish products	Rye
Crustacean shellfish	Oats
Soybeans and soybean products	Latex
Peanuts and peanut products	Mustard MSG
Wheat and wheat products	Sesame seeds
Carmine red color-cochineal	Gluten
Hydrolyzed vegetable protein	Celery
Artificial colors	Sulfites

In addition, there is no potential for cross-contamination of these allergens with these products due to the nature of the manufacturing and packaging processes.

From: Scott Miller [mailto:scott.miller@ingevity.com]
Sent: Friday, September 09, 2016 3:18 PM
To: Mary McMullen
Cc: Richard Freeman
Subject: Re: FW: DATE OF MANUFACTURE

Mary,

Checked with Quality and per our SOP I can share with you how to read the batch code. Hope this helps.

HVTG02W002 - H stands for the Company. V stands for the Plant. T stands for the year (current year 2016...rolls in alphabetical order). G stands for the Month (alphabetical order). "02" stands for the day of the month. W stands for type of material. 002 is the three digit counter number.

Thanks.

Scott A. Miller

Account Representative, Process Purification Group

800-284-1724 (P), 843-637-1363 (M)

Ingevity

4401 Belle Oaks Dr.

North Charleston, SC 29405

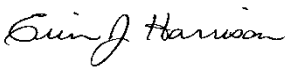
www.ingevity.com

5) Assuming that they are stored properly, these products are stable and have an unlimited shelf life. For proper storage, the container or package must be tightly sealed and kept in a dry, cool, well-ventilated location that is protected from the elements as well as exposure to heat and ignition sources.

6) These products do not contain residual solvents, metal catalysts, metal reagents, dioxins, or pesticides.

Please contact me at erin.harrison@mwv.com or 1-540-969-3659 if you need additional information.

Sincerely,



Erin J. Harrison
Environmental Manager

EJH:ejh

STAR-K KOSHER CERTIFICATION

August 29, 2019
28 Av 5779

Ingevity Corporation
958 East Riverside Street
Covington, VA 24426

This is to certify that the 14 products specified in the listing below, distributed by INGEVITY CORPORATION of the above address, are Kosher and under our supervision.

PLEASE NOTE THE FOLLOWING CONDITIONS OF CERTIFICATION:
All products listed below are Pareve.
All products listed below are Kosher for Passover.
All products listed below are certified Kosher when manufactured by Ingevity Corporation-KY of Wickliffe, KY; or Ingevity Corporation-VA of Covington, VA.
This letter of certification is valid through August 31, 2020 and is subject to renewal at that time.

BRAND: **Ingevity**

UKD#	PRODUCT LISTING
SKXB0FNH0FX	Aqua Nuchar
SKGWP0W249A	AquaGuard
SKYDYJHB6W4	Nuchar MWC
SKC0YE6ZQE9	Nuchar RGC
SKFV3AOD2WH	Nuchar SA
SK15QKWHNYC	Nuchar SA-1500
SKFF2S886SX	Nuchar SA-20
SKPAALJQ98U	Nuchar SA-30
SKBKXVRUUAQ	Nuchar SA-PCL
SK09UPGV9EZ	Nuchar SA-T
SKVXEATPO4N	Nuchar SN
SK5SL447RKK	Nuchar SN-20
SKSQBHJY6U2	Nuchar WV-B
SK7TF7IFW28	Nuchar® CP-20

Eliyahu Shuman

Rabbi Eliyahu Shuman
Director of Supervision

Effective Through 08/31/2020

122 Slade Avenue • Suite 300 • Baltimore, Maryland 21208 • Tel: 410-484-4110 • Fax: 410-653-9294 • www.star-k.org
A NON-PROFIT AGENCY REPRESENTING THE KOSHER CONSUMER IN PROMOTING KASHRUS THROUGH EDUCATION, RESEARCH AND SUPERVISION