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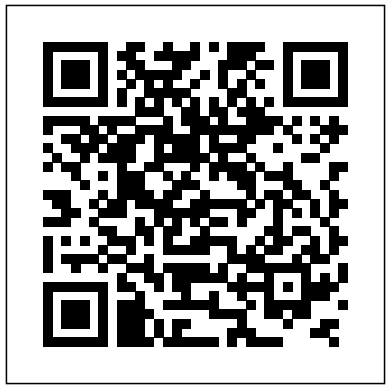

Effect of Stress on the Voluntary Intake of a Sweetened Ethanol Solution in Pair-housed Adolescent and Adult Rats

https://www.chinesestandard.net

Dopamine signaling in the prefrontal cortex is thought to play a role in ethanol abuse. However, little is known about how ethanol affects dopamine signaling in the region. There are a few rodent studies regarding the matter, but both the pharmacological effects of ethanol and the effects of self-administered ethanol on extracellular dopamine in the medial prefrontal cortex remain unclear. The goal of the studies conducted for this dissertation is to clarify these relationships. To accomplish this, we monitored both dialysate dopamine and ethanol concentrations in the medial prefrontal cortex of Long Evans rats while an experimenter administered or a rat operantly self-administered ethanol. In naïve rats, dopamine dose-dependently increased after the intravenous infusions of a 10% ethanol solution, while no changes were noted after saline infusions. In rats trained to orally self-administer drinking solutions, dopamine transiently increased at the initiation of consumption in both ethanol-plus-sucrose- and sucrose-solution-consuming rats. Dopamine concentrations remained significantly elevated for the entire 21-minute drinking period in the ethanol-plus-sucrose-consuming group and for the first seven minutes of the drink period in the sucrose-consuming group. Additionally, in the ethanol-plus-sucrose-consuming group, dialysate ethanol concentrations were lowest at the initiation of drinking and then slowly increased, peaking 35 minutes after drinking commenced. Taken together, these data suggest that the mesocortical dopamine system is responsive to acute, intravenous and repeatedly, orally, self-administered ethanol. It appears that direct pharmacological effects of ethanol were responsible for the dopamine increase after acute, ethanol administration. Furthermore, while is it possible that the direct pharmacological effects of ethanol also bolstered the dopamine response seen after ethanol self-administration, we cannot firmly conclude by what mechanism ethanol elicited the differences. Overall,

our clarifying and novel results support a role for the mesocortical dopamine system in ethanol abuse, which deserves continued investigation. In addition to completing the two aforementioned data studies, we also published the methods we use to monitor dialysate ethanol concentrations, in a specific brain region, during ethanol self-administration in a video-methods journal. The methods are presented in both a detailed written protocol, as well as a video demonstrating how to perform the procedures.

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This Standard specifies the method of liquid chromatography for the determination of bixin (bixin and norbixin) in foods. This Standard is applicable to the determination of bixin and norbixin in cheese, processed cheese and similar products, margarine and similar products, non-dairy creamers, frozen drinks, jams, chocolate and chocolate products, candies, grains and grain products, baked goods, western-style ham, meat sausages, compound seasonings, beverages, jelly and puffed food.

Relative Volatilities of Acids in Aqueous Ethanol Solution Frontiers Media SA

Alkanolamine solutions are frequently used as reactive solvents to remove acid gases. In this work the reaction kinetics of CO2 with 2-(2-aminoethylamino) ethanol, 1-amino-2-propanol, 3-amino-1-propanol, ethylenediamine, ethylethanolamine, diethylmonoethanolamine and dimethylmonoethanolamine in aqueous solutions were measured over the temperature range of 298 K to 313 K. In addition, the reactions of CO2 with 2-(2-aminoethylamino) ethanol in anhydrous methanol and ethanol solutions over the temperature range of 293 K to 308 K were also studied. Ethylenediamine, 2-((2-aminoethyl)amino) ethanol and 3-amino-1-propanol have more favorable reaction rates in aqueous systems under the conditions of this work when compared with monoethanolamine. In terms of pseudo first order constant, the reaction rate of CO2 absorption in 2-(2-aminoethylamino) ethanol was faster in the aqueous solution followed by ethanol then methanol. The aqueous 2-(2-aminoethylamino) ethanol solution has almost double the values of the k2 term in ethanol which has slightly higher k2 values than those of methanol. As well, the reaction of CO2 in aqueous diethylmonoethanolamine was faster than in aqueous dimethylmonoethanolamine. However both of them react with CO2 much faster than N-methyldiethanolamine.

Factors Affecting Yeast Ethanol Formation and Tolerance Springer

[After payment, write to & get a FREE-of-charge, unprotected true-PDF from: Sales@ChineseStandard.net] This Part of GB/T 14455 specifies the method for the evaluation of miscibility of essential oils in aqueous ethanol solution with an already-known content and the method for the determination of solubility of isolate and synthetic fragrances in aqueous ethanol solution with an already-known content. This Part is applicable to the evaluation of miscibility of essential oils and the determination of solubility of isolate and synthetic fragrances.

Sugarcane as Biofuel Feedstock https://www.chinesestandard.net [After payment, write to & get a FREE-of-charge, unprotected true-PDF from: Sales@ChineseStandard.net] This Standard specifies determination methods for volatile basic nitrogen in food. This Standard is applicable to determination for volatile basic nitrogen in food that meats are main raw materials, fresh (frozen) animal meats, meat products and processed meat products, animal aquatic products and seafood as well as their conditioning products, pickled egg products such as preserved egg (century egg) and salted egg.

Medial Prefrontal Cortical Extracellular Dopamine Responses After Acutely Experimenter-administered Or Orally Self-administered Ethanol CRC Press Novel Pharmacological Interventions for Alcoholism identifies priorities for focusing alcoholism and addiction research efforts during the coming years. A number of important issues concerning methodology, mechanisms, clinical evaluation, and pharmaceutical aspects are discussed. This book is also a plea for a greater degree of collaboration among academics, pharmaceutical physicians and scientists, and drug regulators; it demonstrates that progress in understanding and fighting addiction and alcoholism is possible in the foreseeable future.

Pervaporation of Aqueous Ethanol Solution Using Bacterial Cellulose-alginate Membrane Springer Science & Business Media

We report on our observations of light-activated passivation (LIP) of Si surfaces by iodine-ethanol (I-E) solution. Based on our experimental results, the mechanism of passivation appears to be related to dissociation of iodine by the photo-carriers injected from the Si wafer into the I-E solution. The ionized iodine (I-) then participates in the formation of a Si-ethoxylate bond that passivates the Si surface. Experiments with a large number of wafers of different material parameters indicate that under normal laboratory conditions, LIP can be observed only in some samples--samples that have moderate minority-carrier lifetime. We explain this observation and also show that wafer cleaning plays an extremely important role in passivation.

Ethanol https://www.chinesestandard.net

The dorsal striatum and the medial prefrontal cortex are part of a neurocircuitry that is affected by acute and chronic drug use. In the present studies, we sought to characterize the pharmacological effects of ethanol on extracellular catecholamine concentrations in the dorsal striatum and medial prefrontal cortex. To this end, we utilized two different routes of administration to quantify ethanol ' s actions. We performed in vivo microdialysis in adult, male Long Evans rats as they received single or repeated intravenous infusions of ethanol. Following infusion of a 1-g/kg dose of ethanol, we observed no significant effects on extracellular dopamine in either the dorsomedial or dorsolateral striatum, but in a separate group of animals, we observed significant stimulation of extracellular norepinephrine in the medial prefrontal cortex. However, following a cumulative intravenous dosing protocol, we observed a gradual ramping up of tonic dopamine activity in the dorsal striatal subregions, which was more robust in the dorsomedial striatum. Subsequently, we performed in vivo microdialysis in separate groups of rats during an operant self-administration session to quantify the time course of extracellular dopamine and norepinephrine in the medial prefrontal cortex. In the seven operant sessions prior to the microdialysis test session, each group of rats had been assigned to a separate treatment group: one that received a sweetened ethanol solution, one that received a sucrose solution, and a handling control group that did not receive any drinking solutions. In the ethanol-experienced animals, we report a reduction in basal dopamine and norepinephrine in the medial prefrontal cortex, relative to control groups. However, there were no significant differences in the temporal profile of extracellular norepinephrine across the three treatment groups. These studies demonstrate that limited voluntary ethanol consumption appears to be sufficient to alter tonic catecholamine signaling in the medial prefrontal cortex. Additionally, we conclude that central catecholamine signaling pathways are a target for ethanol.

Factors Affecting the Regulation of Intravenous Drug Self-administration by the Rhesus Monkey Dehydration of Aqueous Ethanol Solution Using Sodium SulfateRelative Volatilities of Acids in Aqueous Ethanol SolutionDehydration of Aqueous

Ethanol Solution Using Sodium SulfateA Nuclear Magnetic Resonance Spectroscopy Study of Nitro Compounds in Ethanol SolutionEthanol, Its Active Metabolites, and Their Mechanisms of Action: Neurophysiological and Behavioral Effects

[After payment, write to & get a FREE-of-charge, unprotected true-PDF from: Sales@ChineseStandard.net] This Standard specifies the liquid chromatography for the determination of lutein in foods. This Standard applies to liquid chromatography determination of lutein in infant formula, dairy products, frozen drinks, rice and flour products, bakery products, jams, jellies, and beverages.

GB 31604.50-2020: Translated English of Chinese Standard. (GB 31604.50-2020, GB31604.50-2020)

Ethanol, the main psychopharmacologically active ingredient of alcoholic drinks, represents a paradigmatic example of a research subject intrinsically able to perpetually self-generate interdisciplinary cutting-edge investigations. This eBook was inspired by the aim of providing an up-to-date characterization of the diverse effects of ethanol, of the possible mechanisms of action on different intracellular systems as well as of the hypothesized actions of ethanol and/or its metabolites on various neurotransmitters and neuromodulators. Indeed, the eBook provides a factual example of an excellent synthesis on the complex relationship between ethanol and its main biologically active metabolites (Chapter 1), on the behavioral and molecular consequences of early exposure to them (Chapter 2), on the recent proposals, advanced by the preclinical research, for new therapeutic approaches to distinct aspects of alcoholism (Chapter 3) and on the most recent and original preclinical evidence of the interactions between ethanol and/or its metabolites and the dopaminergic, adenosinergic and endocannabinoidergic systems (Chapter 4). Overall we believe that this eBook accomplishes its main goals of widening the perspective on this research subject and offering the readership a newer and, simultaneously, up-to-date and comprehensive scenery on ethanol ' s and ethanol's active metabolites neurophysiological and behavioral effects.

Dehydration of Aqueous Ethanol Solution Using Sodium Sulfate

This title includes a number of Open Access chapters. As the world ' s energy hunger grows ever larger, fossil fuel reserves are diminishing—and concerns about climate change remind us that our love affair with fossil fuels cannot continue much longer. This has inspired intense research into sustainable energy sources. Biofuels seemed initially promising, but the world soon realized that food-based biofuel has its own dangers. Second-generation biofuels, however, use biomass from crops' inedible parts—such as the stalks and leaves of sugarcane—offering a far more practical, sustainable, and commercially viable solution. In this book, researchers from around the world review some of the most important and timely topics related to using sugarcane feedstock for biofuel. After a basic overview, topics such as these are included: Pretreatment methods The use of various microbial technologies, including bacteria and yeast, to enhance biofuel production Environmental impacts Economic feasibility The viability of electricity being produced side by side with biofuel Essential reading for graduate students and research scientists investigating second-generation biofuels, this book is also recommended for environmentalists, environmental engineers, and microbiologists.

A Quantitative Determination of Ethanol in Aqueous Solution Using Nuclear Magnetic Resonance Spectrometry

Ethanol teratogenicity involving the developing brain is the leading preventable cause of mental deficiency in the Western world. Chronic prenatal ethanol exposure (CPEE) may be a risk factor for ethanol abuse and altered responsiveness to nicotine in

postnatal life. Previous studies in our laboratory have utilized maternal oral administration of a high-dose (4 g ethanol/kg maternal body weight/day) ethanol regimen that induces structural and functional deficits in the fetus and postnatal offspring. The objective of this thesis was to test the hypotheses that moderate CPEE produces in postnatal offspring: (i) structural and functional teratogenic effects; (ii) increased ethanol preference; (iii) altered responsiveness to acute nicotine; and (iv) increased nicotinic acetylcholine receptors (nAChR) in forebrain structures, namely the hippocampus and frontal cortex. Pregnant Dunkin-Hartley-strain guinea pigs were given 24-h access to aqueous ethanol solution (5%, v/v) sweetened with sucralose (1g/L) or aqueous sucralose solution (1g/L) throughout gestation. Spontaneous locomotor activity in an open field was measured in offspring on postnatal day (PD) 10. Beginning around PD 40, ethanol preference in the offspring was determined using a two-bottle-choice paradigm. Each animal was given 2-h daily access to aqueous ethanol solution (0 - 3%, v/v) and water over 33 days of testing. Subsequently, hippocampal and frontal cortical tissues were obtained for the measurement of nAChR population by radioligand binding. Moderate maternal consumption of the aqueous ethanol produced growth restriction in postnatal offspring of both sexes, and increased spontaneous locomotor activity in male offspring only. These postnatal outcomes are similar to the teratogenic effects produced by a high-dose, binge-type ethanol regimen. Compared with control, offspring from mothers that consumed ethanol throughout gestation exhibited greater preference for aqueous ethanol, and a decrease in the concentration of nAChRs in the frontal cortex, but not the hippocampus. These data demonstrate that, in the guinea pig, moderate maternal consumption of ethanol is a useful model for studying ethanol neurobehavioural teratogenicity; and chronic prenatal exposure to ethanol enhances ethanol preference in young adult offspring and altered expression of nAChRs in the frontal cortex.

Is Ethanol a Potential Solution to Reducing U.S. Foreign Oil Dependence?

[After payment, write to & get a FREE-of-charge, unprotected true-PDF from: Sales@ChineseStandard.net] This Standard specifies the liquid chromatography-mass spectrometry/mass spectrometry method for nonylphenol migration of food contact materials and articles. This Standard is applicable to the determination of nonylphenol of food contact materials and products with water, 4% (volume fraction) acetic acid solution, 10% (volume fraction) ethanol solution, 20% (volume fraction) ethanol solution, 50% (volume fraction) ethanol solution, olive oil, 95% (volume fraction) ethanol solution as food simulant OR the determination of nonylphenol in the soaking solution obtained by using 95% (volume fraction) ethanol solution, isooctane chemical substitute solvent in a migration test.

Light-Induced Passivation of Si by Iodine Ethanol Solution

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Resistance to Change of Ethanol Self-administration

Background: Hemodialysis patients are at high risk of infection because the process of hemodialysis requires frequent use of catheters or insertion of needles to access the bloodstream. Indwelling catheters deliver lifesaving therapy for chronically ill patients but frequently cause infections. Ethanol 20 to 74% concentration has proven efficacy in eradicating various planktonic pathogens as well as microbial organisms embedded in biofilms of indwelling central venous catheters (CVCs). Centre for disease control (CDC) report of emerging infectious diseases suggests 2 million people are infected with bacteria resistant to antibiotics. Objective: Even though 70% sodium citrate and 30% ethanol solution is used routinely as catheter lock, there is a paucity of guidance and methodological approaches to ensure safe and effective admixture storage when compounded in hospitals. The aim of this research project was to investigate the compatibility of 4% sodium citrate and ethanol mixtures (v/v) containing greater than 30% v/v of ethanol for potential use as a catheter lock solution. The influence of light, temperature and type of storage container on the physico-chemical compatibility and stability of admixtures was studied over 48 hours. Method: Increasing % (v/v) concentrations of 4% sodium citrate was admixed with ethanol. Samples were studied under four conditions: (1) at 25 ° C with artificial indoor white LED tube light, (2) at 25 ° C without light wrapped using aluminum foil, (3) at 37 ° C with artificial indoor white LED tube light, and (4) at 37 ° C without light wrapped using aluminum foil. Two types of containers were used: (1) silicone-coated and (2) non-coated glass test tubes. Physical compatibility, chemical compatibility and stability were assessed at 0, 8, 24 and 48 hours. Results: Physical compatibility tests indicated that regardless of the storage condition and nature of container 70% volume of ethanol with 4% sodium citrate formed a crystalline precipitate. A statistically significant difference $p \leq 0.05$ in chemical compatibility as indicated by the UV/Vis absorbance at 546 nm was observed between sample

admixtures incubated in silicone coated and non-coated tubes and storage conditions such as light and temperature influenced chemical compatibility. The stability study data followed a pattern similar to, albeit statistically insignificant, chemical compatibility studies. Samples stored at 37 ° C without light wrapped using aluminum foil showed better sodium citrate recovery when compared to samples stored at 25 ° C with artificial indoor white LED tube light. Physical and chemical compatibility tests of admixtures prepared with a 50% or higher volume % of 4% sodium citrate and ethanol demonstrated compatibility regardless of the type of container and storage conditions. Chemical stability tests indicated a sodium citrate recovery of 90 to 100%. There was no statistically significant difference observed in physico-chemical compatibility and stability between different types of containers, light conditions, and temperature of storage. Conclusions: 70% parts by volume (v/v) ethanol should not be mixed with 4% sodium citrate since this would lead to drug loss and adverse consequences. The admixtures containing 50% or 30% (v/v) ethanol and 4% sodium citrate and were physically and chemically compatible and chemically stable for 48 hours regardless of light and temperature conditions. Pattern plots of physico-chemical compatibility and stability parameters indicated reversible reaction kinetics between sodium citrate and ethanol. Better safety and compatibility outcomes may be expected when ethanol and sodium citrate admixtures are stored at 37 ° C without light wrapped using aluminum foil.

Separation of Ethanol from Aqueous Solutions by Double-effect Extractive Distillation

"Whey proteins play a vital role in the manufacture of food products due to their nutritional value and versatile functional properties. [alpha]-Lactalbumin ([alpha]-LA) is the second most abundant protein in bovine whey and the most abundant protein of human whey. [alpha]-LA is a low-molecular-weight (14.2 kDa) and acidic (pI 4-5) protein that is produced in the lactating mammary glands and has a role in lactose biosynthesis. BAMLET/HAMLET (bovine/human alpha-lactalbumin made lethal to tumor cells) are complexes of [alpha]-LA and oleic acid that have been shown to have cytotoxic effects on tumor cells but not on healthy cells. In vitro, it has been reported that BAMLET-type complexes can be prepared by heating a solution of bovine apo (calcium-depleted) [alpha]-LA in sodium phosphate buffer to which an ethanol solution of oleic acid has been added. However, the possibility that the presence of ethanol may facilitate the complexation of oleic acid with [alpha]-LA by affecting the thermal denaturation of the protein has not been investigated In the present study, the combined effects of ethanol and temperature on the secondary structure of bovine apo [alpha]-LA were examined by variable-temperature Fourier transform infrared (VT-FTIR) spectroscopy in conjunction with Fourier self-deconvolution (a resolution enhancement technique) and two-dimensional cross correlation spectroscopy (2D CCS). At room temperature, an increase in [alpha]-helical and [beta]-structure content at the expense of 310-helices and turns was observed as a function of increasing the concentration of ethanol (from ~2.5 to 33% w/v). These findings are consistent with the fluorescence and proteolysis studies of [alpha]-LA reported in the literature, which showed a similar effect of ethanol on the secondary structure of [alpha]-LA. Subjecting bovine apo [alpha]-LA solutions to a heating-cooling cycle (heating from 25 to 950C and cooling from 95 to 250C) in the presence of varying concentrations of ethanol was found to

alter the protein's secondary structure. At any concentration of ethanol the [alpha]-helix and 310-helices of the secondary structure of bovine apo [alpha]-LA were lost upon heating of the protein. The sequences of the changes in secondary structure during the heating and cooling cycles were elucidated by 2D CCS. The results revealed that the protein refolded during the cooling cycle by reversal of the sequence of unfolding events during the heating cycle only in the presence of 20% or higher concentration of ethanol. Overall, the present study supported the ethanol-induced reversible thermal denaturation of bovine apo-[alpha]-LA." --

GB 5009.248-2016: Translated English of Chinese Standard. (GB5009.248-2016)

This book provides an overview of hydrogen production from renewable resources such as ethanol using plasma or plasma-catalytic technologies. Further, it presents a balanced and comprehensive treatment of the core principles, novel plasma reactors and diagnostics, as well as state-of-the-art plasma energy applications. It brings together technological advances and research on plasma generators and their application in hydrogen production, including plasma-assisted alcohol reforming technology, plasma-catalytic alcohol reforming technology, the alcohol reforming mechanism, models of alcohol reforming for hydrogen production, the energy balance of hydrogen production from ethanol, and a comparison of alcohol reforming assisted by different plasma treatment systems. As such, it offers a valuable reference guide for scientists, engineers and graduate students in the fields of energy and environment, plasma physics and chemistry.

Photodegradation Kinetics of Curcumin in Ethanol Solution and Encapsulated in Alginate-pectin Hydrogel

Curcumin, a polyphenol derived from the turmeric root (Curcuma longa), is a natural food colorant with potential benefits as an antioxidant, and an anti-inflammatory agent. Curcumin use is limited by its low water solubility and susceptibility to light, heat, and alkaline degradation, resulting in color loss. Curcumin degrades to form multiple compounds such as 4-vinyl-guiacol, vanillin, ferulic aldehyde, ferulic acid, and vanillic acid. Encapsulation has been used to protect curcumin against light degradation. In this study, the effect of light treatment on the kinetics of curcumin degradation and its antioxidant capacity were characterized for curcumin in ethanol solution and encapsulated in alginate-pectin hydrogel particles at 10, 20 and 35 ° C. Light treatment was conducted using visible light (380-740 nm). Degradation was studied by measuring the absorbance of curcumin solution as a function of time with a spectrophotometer. For encapsulation studies, after light treatment of hydrogel particles, curcumin was extracted from the hydrogel with ethanol and the absorbance was measured. The antioxidant activity of the light-treated and control curcumin samples was evaluated by using the Ferric Thiocyanate (FTC) and DPPH radical scavenging assays. Photodegradation of curcumin in ethanol solution and in hydrogel particles followed first order kinetics at all temperatures investigated. The degradation of curcumin ethanol solution rate constant increased with temperature from 0.3 day-1 at 10 ° C to 0.62 day -1 at 35 ° C, with an activation energy, Ea, of 21.22 kJ/mol. For encapsulated curcumin, the rate constants changed from 2.4 day-1 at 10 ° C to 4.818 day-1 at 35 ° C, with an Ea of 16.62 kJ/mol. Rate constants for antioxidant capacity of curcumin in ethanol solution were approximately ten times slower than curcumin degradation rate constants, based on DPPH assay data which increased from 0.0216 day-1 at 10 ° C to 0.0864 day -1 at 35 ° C, with an E ¬ ¬ a of 40.8

kJ/mol. Kinetic analysis of FTC assay data revealed an even slower antioxidant capacity change than the DPPH assay data. The results may indicate degradation products of curcumin have similar antioxidant activity as the parent molecule, curcumin, and are less dependent on temperature. Ultra-High Pressure Liquid Chromatography (UHPLC) and Quadrupole-Time-of-Flight (QTOF) mass spectroscopy analyses of pre- and post-light treated curcumin indicated a significant decrease of the principal curcuminoids and an increase in degradation products, such as 1,3-benzothiazole.

GB 5009.287-2022: Translated English of Chinese Standard (GB5009.287-2022)

Dehydration of Aqueous Ethanol Solution Using Sodium SulfateRelative Volatilities of Acids in Aqueous Ethanol SolutionDehydration of Aqueous Ethanol Solution Using Sodium SulfateA Nuclear Magnetic Resonance Spectroscopy Study of Nitro Compounds in Ethanol SolutionEthanol, Its Active Metabolites, and Their Mechanisms of Action: Neurophysiological and Behavioral EffectsFrontiers Media SA

Kinetic Study of Carbon Dioxide and Alkanolamines Both in Aqueous and Non-aqueous Solutions Using the Stopped Flow Technique